APRIL, 1878.

Office, No. 128 W. Baltimore St., Baltimore, nearly opposite American and Sun Buildings.

Subscription, $1.50 a year,
To Clubs of five, 1.00 a year.

AGRICULTURAL CHEMICALS

FOR MAKING YOUR OWN

FERTILIZERS.

We import or manufacture a full line of the above goods, such as

Super-Phosphate of Lime, Raw and Dissolved Bone, Potash Salts,

Sulphate of Ammonia, Nitrate Soda, Sulphate Magnesia, &c., &c.

We are also authorized to compound the celebrated

STOCKBRIDGE MANURES.

☞SEND FOR PAMPHLETS AND PRICES.☜

WM. DAVISON & CO.

104 West Lombard Street.

PERUVIAN GUANO.

We desire to call your attention to our stock of

GENUINE No. 1 PERUVIAN GUANO.

The Guano we offer you is directly imported from the Peruvian Government Islands, is in fine **Dry** condition, **Reweighed**, and **Newly Sacked**.

We feel sure that an examination will convince you of the superiority and merits of the Guano we offer, it being **more like the old Chincha Guano** than any Guano imported for several years.

We respectfully ask you to come and examine our Guano before making your purchases.

For Sale at Agents' Price, by

ROBT. TURNER & SON,

No. 43 S. FREDERICK STREET.

THE

AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

VOL. VII.—NO. 4.] APRIL, 1878. [NEW SERIES.

The Maintenance and Restoration of Fertility in Lands.

We give below a liberal extract from an interesting paper read by Captain R. E. Duvall, before the Watervale Farmers' Club of Harford county, Md., and forwarded for publication in the *American Farmer*.

After alluding to the necessity which exists for using all means to preserve the fertility of remaining good land and to restore that of millions of acres which have become worn out, and a reference to the history of the decline of nations which have gone before us, he said:

Let us but look at our own home, and remember how short a time it has taken to lay waste so many millions of acres of the most fertile land—the value of which it is difficult by figures to express. If you will examine the last census, you will find that in the different States and Territories we have 407,735,041 acres of farm land, and there are 218,813,942 acres, or 53.70 per cent. of the whole number of acres reported *unimproved*,—leaving but 188,921,099 acres of tillable or improved land (by improved land is meant cleared land, used for grazing, grass or tillage, or lying fallow,) and the total value of farms is stated at $9,262,803,861, of which Pennsylvania's farm lands of 17,994,200 acres are credited with $1,043,481,583; whilst Old Virginia, the oldest of all, and the Mother of States, with her 18,145,911 acres, has but the credit of $213,020,845. My countrymen, what should this teach us! Let us compare and examine, and I think we may get on the right road to find the truth, and, when found, if we will follow its teachings, plenty will abound, happiness be secured to man, and the true design of the Almighty God in the creation of this Earth and placing man thereon be realized. May it be the mission of our people to perfect their ways and carry out the divine purpose! Now, if you work out the difference between the value of land in these two States, you will be much surprised, and it is not difficult to understand the cause. The difference in the assessed value of land in them is $830,460,737, though Virginia has 151,711 more acres of farm land than Pennsylvania.

I have taken these two States, as they will make the fairest showing of what we are doing and what we should do. I think no one who is at all acquainted with the geographical position of them; their climate, natural fertility of the soil, mineral resources, line of sea coast, deep navigable rivers, and all pertaining to them, can fail to see how incomparably greater Virginia naturally is in all that will give support and comfort to man; yet we find this appalling difference, and why? simply because the people of Pennsylvania have to a considerable degree taken care of their land and compensated with lime and other fertilizers for the crops given, and thereby been enabled, from a surplus of their crops beyond their own home wants, to have capital to develop their mineral resources, and thus establish a large manufacturing interest which gives employment to many of their people and makes them a prosperous commonwealth within their own borders. Her population in 1870 was 3,521,951. Assessed value of land as before stated $1,043,481,582; of farming implements and machinery, $35,658,196; all farm products, including betterments and addition to stock, $183,946,327; of animals slaughtered or sold for slaughter, $28,225,720; home manufactures, $1,503,754; forest products, $2,670,370; market garden products, $1,810,016; orchard products, $4,208,094; making the grand total for value of farms, farm machinery and annual product of farms, $1,301,503,759. And paid for wages during the year, including board, $23,181,944. Now, for dear Old Virginia, nearly one hundred years older than Pennsylvania, with a climate so genial as to give two months more time for things to grow, and man to work in farm pursuits; with its long line of seacoast, and its many hundreds of miles of deep navigable rivers, running up to the foot of the highlands where you meet the fall of the various streams coming from the mountains and hills, affording power enough to do the manufacturing of the various fabrics that are needed for man's

use and comfort, for more people than our broad land contains. Most of the eastern portion of the State is a fine cotton country; the high lands and mountain sides are as fine a country for raising sheep as can be found, and the hills and mountains are full of coal, iron, copper, lead, etc. The southwestern portion has extensive salt mines, and gypsum or plaster enough to supply the world. Immense forests and swamps of the finest timber—such as white oak, ash, black walnut, cedar, cypress and yellow pine. The natural fertility of the land is equal to any in our country; as instance, most all the southwestern portion, where blue grass grows as freely as in Kentucky. The land on all of the many rivers from the Potomac through to the Roanoke, the eastern or coast land, with proper treatment, though now lying waste and bare, is the best of all, for it is fed by the sea breezes which are eternal fertilizers. The writer has seen much land that had been continually cropped in corn and oats for the last century and never had one pound of manure of any kind returned to it. The only support it had was from a little yellow vetch or plant that seemed to abound when the land was sown to oats, that fed by the fertilizing sea breeze, attained the height of poor clover; and when not grazed off and turned under the next season for corn, made a crop, not a large one truly per acre, but the cultivation was so easy the owners considered it paid them well for raising corn. I said for a century, and I do not doubt it, for I have seen old and reliable men who had so worked the land all their lives, and who said so had their fathers done before them. But with all these natural and great advantages, compare those of Pennsylvania, which has not one mile of seacoast proper and no river navigation for sea-going vessels, save the Delaware, and that but a short distance. She has the lakes on her northwestern border, of which she makes great advantage I doubt not. What is Virginia's condition, with her 18,145,911 acres of farm land, reported as worth but $213,020,845; of farming implements and machinery, $4,924,036; and of all farm products, including betterments and addition to stock, $57,774,801; animals slaughtered or sold for slaughtering, $8,375,975; home manufacture, $556,307; forest products, $686,-863; market garden products, $505,117; orchard products, $891,231; making a total for farm lands, farm implements and machinery, and products of farms and forests, of $280,178,867. The difference in value of farm lands, machinery, products of farms, &c., etc., is $1,021,234,892. Virginia paid for wages, including board, $9,753,-041, with a population of 1,234,830. As a farther showing I have taken one of the best and one of the poorest counties of each of the two named States, namely: Lancaster and Sullivan counties of Pennsylvania, and Loudon and Patrick counties of Virginia. Lancaster county has 462,833 acres—value in dollars 70,724,908; annual production of farms, $11,845,008; value of live stock, $6,044,215; (reported value $152.00 per acre;) annual crop is largely over one-fourth of value of land. Sullivan county, which has 36,689 acres; value of land, $1,618,100; value per acre, $45; value of farm products, $496,694; live stock, $351,901; produce of farms and live stock nearly equal one-half the value of farms. Loudon county, Virginia, has 201,888 acres; value in dollars, $10,877,006; products of all kinds from farms, $2,097,904; live stock, $1,168,-311; annual crop and live stock nearly one-third the value of land; value per acre, $45. Patrick county has 59,414 acres; value in dollars, 351,-975; value per acre, 5¾ dollars; value of all farm products, $400,553; live stock, $177,276; the products and live stock valued $225,854 more than estimated value of land. It may be said that slavery was the cause of the difference, and, indirectly, it had a great deal to do with it, but the prime cause was robbing the land of its fertility, and as it failed to produce, moving farther and clearing more land to be used in the same destructive way; and, finally taking their slaves and leaving the old commonwealth altogether, going farther South to the new lands to repeat the same process; the slaves enabled them to carry out this national destruction more rapidly. But they were not alone the destroying agents; the same process has, to a greater or less extent, been carried on in every new State settled, and to this day the same course is being pursued, and will be as long as thoughtless, selfish men are allowed to take up our new and fertile lands in the cheap and easy manner they now do. It is more easy to take up and work new and productive land than to restore the land they have worn out and laid waste. Surely it is the duty of the government of the people, and for the people, to save the new land left for the people's maintenance, and so order the government of cities as to preserve the health of the people therein, by rationally cleaning and saving all waste from the cities to be returned to the land, to enable the people to restore it to its original fertility.

I know it is the doctrine of the advocates of free government that the government should have but little control of the acts and movements of the people. Government means control, and all should give a rational submission thereto. All governments are, or should be, more or less parental; and surely to govern so far as to assure the health of the people and to preserve the land so as to secure plenty of food and employment, cannot be objected to by those of the most ultra democratic views. This subject of the preservation of our new land and the restoration of our worn-out or wasted land, is of the most vital importance, for upon it depends the life of the nation and the security and happiness of the people. It only wants enquiry and examination to convince the plainest understanding of the truth and necessity of its being done. And if enquiry is but made by the farmers in these clubs or organizations of any form, it will arouse the public mind and bring out the views of our most intelligent and patriotic people, and lead to the instruction of our representatives so that they will enact such laws as will secure this vital purpose.

Now, look at China. They are a people, the oldest known in history, and not equal to many other of the early families; but they are greater to-day than ever they were, with a population of 477,500,000, on an area of 4,695,334 square miles. And why? They were wise enough to learn that by the land they were to live, and upon its preservation and assured fertility their safety

rested. Hence they wisely adopted such rules or laws as prevented the waste of *anything* that would aid to compensate the land for the crops given.

Japan, with a population of 35,000,000, has an area of but 149,399 square miles—but a little over half the area of Texas. They, too, are as old as the oldest; but they have pursued the same system as the Chinese, and have their safety and happiness secured. Now, let us look at home, and contrast the portion of our country that has been but reasonably farmed and taken care of, with the larger portion that has been and is being cropped without care for the land, and none can doubt that in the care and just treatment of the land man's happiness and safety is assured, and without it destruction is sure to follow. May we be saved from so sad a fate! Let us look and see. If we were to take all the land reported as farm land, and raise it in productiveness to equal the land of Lancaster county, what would be the result? 407,735,041 acres increased to the value of $153 would be $62,383,461,373,—nearly seven times more than the estimated value of all our farm land in our broad domain.

Now, can we doubt that it can and ought to be done? It is the mission of our people to see *that it is done.* Now, fellow-members of our club, may I offer a few words of advice. (I hope my years may be my excuse if it is not thought modest in me for so advising.) We are a small number of plain unpretending men; but as good citizens and patriotic men, have our mission to do, and of ourselves do all we can within our means to increase the productiveness of our much-abused land, and use all honorable means to enlist the coöperation of all men to aid in getting such laws established as will enable the cities to supply all the waste after consumption of the supplies we send them for their comfort and maintenance, at a fair remuneration to them for so doing, and thereby swell the volume of manure that will insure the restoration of our many impoverished acres. And to get from the general government a security that no more of the public lands shall be destroyed as they have been; for there is certainly wisdom enough, when a fair inquiry is made, to adopt some safe plan to effect so good and necessary purpose. I know we are but a small point to start from for so great a purpose; but the old school aphorism that

"Tall oaks from little acorns grow,
Great streams from little fountains flow,"

is as true now as ever; so let us be encouraged to try. I think we have done some good heretofore and can do more in the future.

The Grasses.

From one of a series of articles on *feeding animals*, by a correspondent of the *National Live Stock Journal*, we select the following upon summer feeding and the best system of pasturing, in which the writer gives a description and the value of the grasses and clovers best known to and suitable for the farmers of the Middle and Southern States, to whose attention we heartily commend it:

Summer Feeding.

Farmers regard this period in feeding as the most favorable and economical. It is no doubt the most favorable for producing growth, not only because succulent grass is the food, but the warm season is more favorable for laying on flesh and fat than the cold season. But it may be doubted whether feeding in summer actually costs less than in winter, because, as a general rule the whole country over, it takes three times as many acres to summer the stock as to winter it; and only on the supposition that the labor in preparing the winter food costs more than the capital invested in the extra land used for pasturing, can it be considered more economical. Many of the best cattle feeders, both in the United States and Europe, do not consider it economical to use so much land for grazing cattle, and, therefore, have sought to reduce this by soiling, partially or wholly, the stock in summer; but this question of soiling I shall leave for another occasion, and here consider the

Best System of Pasturing.

A variety of food is as important in pasturing as in stall-feeding, and those pastures having the greatest variety of grasses are the best. Too little care is taken in seeding for pasture to select a sufficient variety. Sometimes only one grass, and that not the best for pasture, although unsurpassed for hay—timothy—is sown. Others, more liberal, sow red clover and timothy. Both of these should be used in any selection of pasture grasses. Timothy, with all its excellence as a hay crop, does not stand constant cropping off by animals as well as many others. Clover furnishes a large amount of most excellent pasturage, being rich in all the elements of growth, and growing quickly after being cut or eaten off. Blue grass, or June grass (*Poa pratensis,*) is native to the country, grows over a wide range, and has no superior as a pasture grass. It is seen in its greatest luxuriance and perfection in warm, rich, strong limestone soils, and in the valleys west of the Alleghany Mountains. It produces very early herbage, and, when kept fed off, remains fresh till frost, and, under light snows, furnishes a winter pasturage. It stands close feeding remarkably well.

Redtop or herds-grass (*Agrostis vulgaris*) delights in a moist soil, and with this grows well on a soil of almost any texture. It should not be omitted in a pasture soil fitted to it. Although it is not equally nutritious with June grass, yet it makes good pasture, and very fair stock hay.

Sweet-scented vernal grass (*Anthroxanthum odoratum*) is an excellent pasture grass, which exhales a most agreeable perfume, and is often found in the hay of the Eastern States. It gives an agreeable flavor to milk, and no doubt assists in improving the flavor of beef grown upon it with other grasses. This grass affords both early and late pasturage, and flourishes best in a dry sandy or gravelly loam. As a hay crop it may be cut several times.

Orchard-grass (*Dactylis glomerata*) is well adapted for pasturage; and on rich, inclining to heavy soils, will produce a large amount of excellent green food. It must be kept eaten

close, and not allowed to get large, as it then becomes woody. It springs up very quickly after being eaten off, and will thus afford a constant pasturage through the whole season. This grass is much inclined to grow in tussocks, and leave vacant spaces to be filled by other grasses.

Flat-stalked blue grass, or wire grass (*Poa compressa*,) is an early, low grass, common in the Middle and Northern States. It is a very nutritious grass, and, when cut early, makes excellent hay, but in small quantity; yet its greatest value is as a pasture grass, as it covers the ground, and, when fed close, will furnish much green food. It is also very tenacious of life, and will stick to a field when it gets rooted,—thus becoming a nuisance in a cultivated field, and requiring three or four plowings to eradicate; but in permanent pastures it is very desirable.

An old pasture has many more grasses than here enumerated, and the greater the variety the better for the thrift of the cattle.

As a further aid to understanding the individual value of these grasses, we append the most reliable analyses of four of them and the three clovers, in a green state:

Grasses and Clovers.	Water.	Albuminoids.	Carbohydrates.	Crude fib.	Fat.	Ash.
Timothy (*Phleum pratense*)	57.21	4.86	22.85	11.32	1.50	2.26
Blue grass (*Poa pratensis*)	67.14	3.41	14.15	12.49	.86	1.95
Sweet-scented vernal grass	80.35	2.00	8.54	7.15	.67	1.34
Orchard grass	70.00	4.06	13.30	10.11	.94	1.54
Red clover	83.00	3.30	7.70	4.50	.70	1.50
White clover	80.50	3.50	8.00	6.00	.80	2.00
Alsike clover	82.00	3.30	6.30	6.00	.60	1.80

Redtop (*Agrostis vulgaris*) and wire-grass (*Poa compressa*) have not been analyzed, but their practical value is well known. We have given only a few of the grasses that may be used in pasture; but deem it better to give a few that may be easily obtained than a larger list, many of which are not in the market. Pastures being the general reliance for feeding cattle in summer, particular attention should always be given to their condition and the quality of the food they furnish. I wish to point out the great error, too often committed by farmers, of compelling cattle to take what they can get in the pasture, whether it affords sufficient nutriment to keep up a full and steady growth or not. It often happens, in very dry seasons, and sometimes in very wet ones, that the grass is quite inadequate to produce a vigorous growth; and, lacking their full ration, the cattle make so little progress that this most favorable season is practically lost—the gain being much less than the value of the pasture.

The Culture of Millet.

Editors American Farmer:

I have read some very interesting and profitable articles in your valuable paper on the cultivation of millet. Hoping my experience may be acceptable to some of your readers, I venture to offer it. The crop of 1877 was my first experience in the cultivation of millet; with the result I am much pleased, and think it a valuable farm crop for provender.

In the early fall of 1876, I sowed my corn field in rye after cutting off the corn. The rye made a fine growth, and early in April I turned my cows on it to pasture. They enjoyed it exceedingly and gave a fine flow of milk, the cream of which made delicious butter and a great yield of it; we thought our rye butter the best we made. I pastured the rye as long as I wished, and then broke the ground with three horses and large plow, (the weather being dry and the ground hard, I could not get it in as good tilth as I wished.) Gave a dressing of bone at the rate of ½ ton per acre. The field contained 8 acres; one half (4 acres) I sowed with Golden or German millet on the 12th day of June, the other 4 acres with English millet on the 2d day of July.

I sowed about ¾ bushel of seed per acre, which I think is the proper quantity if the ground is well prepared. The ground in which I sowed my Golden and German millet was cloddy, and the weather continued dry for many days after it was sown, so that it did not come up as well as I wished; but the after season was good enough to make a good crop. I think it yielded me 1½ tons of hay per acre. I hauled 12 large 4-horse loads into my barn from the 8 acres of both kinds of millet, besides a portion of the Golden millet reserved for seed, of which I have threshed between 30 and 40 bus., not yet entirely cleaned, for market. I cut it for hay Aug. 27th, soon as the bloom was dead; found it required a day more sun to cure than timothy.

The portion for seed was cut when the heads were ripe. Commenced cutting it green for my stock early in August; they ate it greedily as any grass except red clover, which has no equal.

The English millet matures about one month sooner than the Golden; makes excellent provender; good for soiling, but falls much, and does not yield near so heavy crop as the Golden.

I have been feeding my (Golden) millet hay nearly one month, and find a decided increase in milk from my cows, which have been fed on the best timothy hay all winter up to the time I changed to the millet hay; the quantity, kind and quality of meal, and other circumstances, being the same. You see I must pronounce Golden millet hay the best provender I ever fed to milch cows, except clover hay, properly cured,—than which there is nothing so good for hay or for pasture.

My English millet hay is in the mow with the Golden millet on it, so that I have not fed it as hay; no doubt it is very good,—perhaps as good as the Golden,—but I must say the Golden is "The Millet."

After harvesting my millet, I broke the field and sowed it in wheat, timothy and clover; the wheat looks well, and I am well satisfied with my proceeding; and would be especially so if at any time I saw my hay crop would be a short one. There would be plenty of time after the middle of May to prepare the ground and sow a crop of millet for hay.

The straw from threshing the seed makes excellent provender for horses and dry cattle; the chaff is splendid to put in my poultry yards,

(chickens) a hamper basket every morning—so there is no waste in saving some for seed.

N. B.—I find the seed needs to be covered lightly; if the ground is fine and smooth it is best to rub it in instead of harrowing.

Yours very truly,

WM. J. SCOFIELD.

Montgomery Co., Md., Mar. 8, '78.

[For the American Farmer.]

On the Culture of Tobacco.—No. III.

Planting and Topping Tobacco, &c.

Tobacco should always be planted as soon as the plants are large enough to plant. The 20th of May is not too early in the season to begin, and if the soil has been previously well refined there will be moisture enough in it, and the planting may be safely done without rain, and the plants will live better than they would the 10th of June, or later, with a season to plant when the sun has power to scorch and kill them; and generally the early planting is greatly superior in quality to that which is planted later in the season, both in richness and flavor. My views concerning the culture of tobacco have been set forth in a previous article.

Topping tobacco comes next in order, to the consideration of which I now invite the reader's attention. There is diversity of opinion as to the number of leaves that should be left upon the stalk of tobacco when the plant is topped. Before we can properly decide which is the right number we must first decide which quality of leaf commands the highest price per pound in market, and what number of leaves left upon the stalk will produce the best and the most of this quality. Other qualities being the same, the long, broad, rich leaf brings the highest price, bright wrappers excepted. All intelligent observant planters know that high topping has a tendency to make the leaf short, narrow and poor, and that low topping has a tendency to make the leaf broad, long, and rich. Now the point to be decided is as to which number of leaves will constitute the right medium. I will say, from my experience and observation, that ten leaves to the plant is full high for the richest and most highly improved high land, or the richest alluvial bottom, and that eight leaves are enough for all other grades of soil, to be left upon the stalk,—pruning or breaking off in both cases the leaves at the bottom of the plant, to the height of nine inches from top of the hill, or soil, to the lowest leaf left upon the stalk. It may be well here to remark that the markets for tobacco in Virginia, especially in Richmond, have undergone a great change during the last ten years. The rich, dark and comparatively rough qualities have advanced in price during this time from $3 to $8 per cwt. above former prices for such, whilst the finest and best-flavored manufacturing qualities, *well assorted*, have declined almost in the same ratio. The time was when the Thomases, Hardgroves, Browns, Robinsons and Bridges appreciated these sweet-flavored qualities, and would pay remunerative prices for *properly assorting and ordering such*. But these days of grace have passed, and we know not when, if ever, they will return. Concerning this, to my mind, inexplicable change, I have only this to say: If the ugly washerwoman, in her fumes of soapsuds and filth, is now preferred to the beautiful and exquisitely neat lady whose breath is like the perfume of roses, the washerwoman should not complain because her merits are at last appreciated. As a majority of planters are making, or can make, these rich, rough, ugly and nauseous grades of tobacco, and with less painstaking and labor than is necessary to make the fine, sweet-flavored qualities, except in the single item of making the land rich, I think there is no reason why any of this class of planters should object to the change. And as the cry in market, from year to year, is for more stamina and oil in the fine manufacturing grades, I would say to those who would prefer growing such: increase the quantity of manure and fertilizers, so as to increase the size and richness of the plant. *Remember, we grow tobacco for the profit.* If one acre of land made rich will produce 1,200 pounds of tobacco instead of 600 pounds, the product of the unimproved acre, and the 1,200 pounds bring in market $12.50 per cwt., $150, and the 600 pounds bring $8 per cwt., $48, (and these, I think, are about the relative prices the two lots would bring in market,) there would be $102 in favor of the rich acre. I think $25 per acre is liberal pay for manuring and fertilizing; and if I am correct in this, there would remain a net difference of $77 in favor of the acre made rich. The reader will excuse this seeming digression. The purpose of the writer is to bring the whole matter fully before the minds of planters, so that they may see clearly the advantages of growing large, rich tobacco.

A few more remarks about topping and I will close this article.

If the topping of tobacco is deferred until the button or germ of the blossom appears, it will invariably injure the crop by causing a narrower growth and poorer quality of leaf.

Topping should always be done as soon as practicable, without doing injury to the bud leaves. The next business in order is to keep the tobacco clean of suckers and horn worms, in reference to which I can give no special directions, only that the doing of it will necessitate constant application and labor; the planter realizing in this, as well as in some other matters, with a slight variation, that "eternal vigilance" is the price of success.

In my next I shall consider the business of cutting, housing and curing tobacco, &c.

Louisa Co., Va. J. M. BAKER.

Comments on Times and Prospects.

One would suppose the times were sadly out of joint after seeing and hearing so much of the scarcity of money among the people. In one respect there seems to be an abundance of the elements of living—meat and grain. There is a stagnation in business, innumerable failures and abatement of the circulating medium. There are many people out of employment, factories closed and little public improvements going on. Many persons were in the belief that the Eastern war would afford markets and remunerative

prices for much of the agricultural productions; so far it has failed to do so.

Not so long since, speculation was rife, prices of property and other things high; but now how altered! Property will not pay debts, and money is in its hiding-places. Such times are of not rare occurrence in every country,—there are flush times as well as stringent. The causes are many and the effects pretty similar. People are too apt to want to get rich too suddenly, and often throw good money away on uncertainties. They forget the old saying, "a bird in the hand is worth two in the bush;" they are not so apt to miss it when they get the *quid pro quo* or value received. There is no knowing what is to be; but there is a knowledge of the past. To a certain extent we must venture—we must give the time and labor and seed with the expectation of growing a crop. If in trade, we must lay in a stock to keep up business. To enhance the value of our herds, be liberal towards fine stock. We have to draw on the future to some extent in every department. No venture, no make; no seed-time, no harvest.

There are certain truths that obtain in businesses—for instance, whatever is worth doing should be done well; whatever is most important should receive the earliest attention; and anything well done is twice done. Whenever you engage in speculation, hold on to a reserve; for in case of a failure you have something to fall back on. As there is a time for all things, there is a right time and a wrong one. If you have a certain time to pay a note in and don't come up to it, you are protested; so if you neglect the proper time and season, you fall short of success.

To return to the times again: Avoid going into debt as much as possible; establish the rule of paying for what you are obliged to have. If you are so particular in your own affairs, be careful how you undertake for other people. Many a man has been ruined by undertaking to pay another's debt; the less you indulge in that business the greater your safety. Let your response be to this effect: "I go your security that if you don't pay your own debts I will not." If one be obliged to have money, let him put his property up as a guarantee for its payment; if there should be a failure, one would go by the board and not two. Wealth cannot always be obtained at once; but by degrees and only through perseverance and economy. You are in a manner rich if you obtain a small farm or even a dwelling. If you have to rent or move every once in a while, you will be like the rolling stone—"gather no moss." If you cannot achieve wealth you can independence. Don't let pride be in your way. Lay to with a will,—"poverty and pride can't ride well together on a rail." Doctor Franklin said if you want to be wealthy ask your wife. In all my time I have seldom seen a failure when man and wife put their heads and their hearts together—that they were not crowned with success. PHILO.

March 5, 1878.

HEN MANURE should never be mixed with lime or wood ashes. The effect is to produce rapid decomposition of the manure, and to drive off the ammonia.

Our French Letter.

Progress of Agriculture in France.

Messrs. Editors American Farmer:

M. Mauguin, a clerk in the Ministry of Agriculture and Commerce, has published a history, from official documents, of French agriculture from the time of the Gauls, when the real cultivators of the soil were slaves. During the Roman occupation they were not much better; as the Romans inspired the Gauls with a contempt for tilling the soil, and encouraged them to depute that work to captives. The early French kings, on the contrary, encouraged cultivators and protected them from the exactions of the nobles, and the monasteries were conspicuous for reclaiming land and tilling it judiciously. A parish was not allowed to export its products to another parish, the better to provide against famine. In the time of Henry III., civil wars had so ruined the country that a bushel of wheat cost fr.115. Cardinal Richelieu compelled the religious societies to propagate agricultural knowledge, and Colbert during the reign of Louis XIV. imported cattle from Flanders, and sheep from Spain and England, which he presented gratuitously to farmers. In 1746 a commission was appointed to combat the cattle plague, and, curious fact, this body later became the present Academy of Medicine and Surgery. Veterinary Schools were founded at the same epoch. In 1800, an agricultural gazette was gratuitously circulated by the government. Napoleon I. in 1807 decreed the draining of marshes, drew up a rural code, and founded 51 agricultural societies; he also compelled the nation to adopt the German plan of preparing beet sugar—now one of the staple industries of the land. In 1839 a special minister of agriculture and commerce was instituted; in 1825 the famous Mathieu de Dombasle founded farm schools; in 1831 government studs were reconstituted for the breeding and training of horses, for civil as well as military requirements, and about the same period the Grignon Agricultural College was established. Whatever objections may be urged against the State assisting agriculture in other countries, instead of allowing its advance to remain between the hands of private enterprise, there can be no question that aid has been, and still is, a necessity and a success for France.

The Phylloxera.

The phylloxera up to June last has destroyed 740,000 acres of vineyards—about one-fifth of the total in this country—and a nearly equal area is attacked by the bug. The only effectual remedy continues to be that prosecuted since many years by M. Faucon: submersion of the vines for 40 or 50 days at the close of autumn, and generous manurings in the spring. The government has just decorated this gentleman with the Legion of Honor for his success, but the recompense of nearly 300,000 fr. for a perfect and practical cure is still outstanding. Persons who believe they have a panacea can correspond with the "Phylloxera Comités, chez Le Ministere d'Agriculture et de la Commerce, Paris." These committees are authorized to experiment on diseased vines, with any agencies presenting feasible elements of success. It is needless to say they are bombarded with remedies. The stripping or crushing the

bark of a vine with a special glove, destroys the eggs of the winged insect; for the underground enemy, nothing has been found superior to the sulphuret of carbon. A substance similar in many respects, a sulphurous anhydrite, is highly recommended by Professor Monnier of Geneva, and excellent results are attested of its efficacy. It is now being tested in France. In the lands rendered desert by the phylloxera, farmers are finding the culture of beet-root profitable, when distilled; the pulp is excellent feeding. The prospects of both distilling and sugar-making are not at all bright.

The Coming Exhibition.

The agricultural preparations at the exhibition are very complete, and the shows may be considered as successes in advance. Several of the Departments have secured space to exhibit the special productions of their regions.

M. Monclar advocates the study of so selecting the food for stock as to make their flesh have a decidedly agreeable taste. There is no reason, he remarks, why beef, mutton, veal, poultry, &c., ought not to vary as much in taste as different kinds of apples, pears, &c. Pigs and turkeys fed on oil-cake cannot be consumed, their flesh is repulsive; rabbits dieted on hay have a superior taste than when limited to cabbage-leaves, and fowls and pigs become more delicate for the table when fed with maize rather than refuse wheat and barley. F. C.

Paris, Feb. 28, 1878.

Early Cutting of Grass and Clover.

Your correspondent "H. S. R.," in the March number of the *American Farmer*, said:

"Horses will keep in flesh, spirit and strength, without grain, when one-half their forage consists of German millet hay, cut *just before ripening.*"

Undoubtedly. And stock of all kinds will do better on any kind of hay "cut just before ripening." But my neighbors in this region will not believe it. It is the custom to leave the timothy and clover till it is dead ripe. The consequence is that more than one-half of the nutritious substance of the hay is gone before it is used. What a waste it is to feed out clover dried in the land before it is cut! And how poor that fodder is! It is no wonder that clover is so little used for hay fodder. It is neither good nor profitable if left standing till ripe.

It is true that it requires some knowledge and care to cut and cure clover as it should be; but when it is harvested at the right time and properly cured for stacking, it will feed double the amount of stock that dried-up clover will, is better relished by the horses and cattle, and is much more wholesome for them. C. B. W.

Kanawha Co., W. Va., March 9, 1878.

Sheep as Improvers of the Soil.

Messrs. Editors American Farmer:

An article in your Feb. No. by Mr. Goe claims for Merino sheep more than I think they are entitled to, for I do not see how sheep will improve land any cheaper than horned cattle, in fact improve it all.

Straw is said by some to be worth as a fertilizer only what its ashes are, and how sheep are going to work it into the best of fertilizers I fail to see. If not needed for feed or littering it would certainly be more profitable to apply it to the land immediately, that it may protect and improve it. That "they will enrich your land free of cost," is, I think, an error. Just try an experiment: put them into a poor field where the grass as a consequence is thin and short, and watch the progress of the improvement. I guess the flock and field would soon be alike, for things generally resemble their surroundings.

Something can never be had for nothing, except by fraud; so a sheep will never produce fertilization from nothing. Now, many who claim great things for sheep state their case just in the above way. That they will give a large profit on all they consume may be true, but I will wager a lamb that the sheep butchered in the U. S. do not net the producer in market $2.50 per head, and if every farmer in the country kept sheep they would be a drug on the market at cost of production. Have often heard of their fertilizing "waste places," but supposed it was on the principle of "robbing Peter to pay Paul;" certain seasons of the year they will after grazing on low grounds during the day invariably go to the high grounds, if any are accessible, to sleep and improve them by their deposits. For my part, as an improver I prefer clover. If I am not intruding too much on your columns, there is one thing that I have never seen stated about this plant, and that is, if allowed to obtain perfection, the decay of the top is often followed by the decay of the main or tap root, and though it may in many soils remain sound until the next year or even longer, yet will not act as a feeder to any extent, but has its place supplied by young laterals, which, though not so large, are numerous and long. The decay extends from the crown to the bulb, and destroys its further usefulness to the plant. B.

Richmond Co., Va., March 15, 1878.

[This communication will give abundant reason for a response from some of our correspondents who have fully tested the virtues of sheep as promoters of the fertility of the soil. Doubtless our readers will be glad to hear from them on this subject.—*Eds. A. F.*]

The Enterprise Club.

Messrs. Editors American Farmer:

The Enterprise Club of Montgomery Co., Md., needs no introduction to the *American Farmer*,—that periodical being a regular visitor to nearly every member, and the club's reports having been annually published in its columns. The club met on the 16th instant, at "Harewood," the farm of Arthur Stabler, and the home of the venerable Edward Stabler, who has been an eminent agriculturist, and who brought up the old homestead from original poverty to be known as "the model farm of the county," at the same time rearing a family of eight sons and two daughters; retiring now in his old age from active business, with ample means and a flourishing posterity to comfort him.

The name of "model farm" earned for this place by Edward Stabler is not entirely inappropriate; for the same farm, under the management of his successor, three large fields of wheat bear evidence of good cultivation and plenty of manure. Our host two years ago raised 44 bushels of wheat to the acre, and at least one field bids fair to equal that amount. The grass fields were covered with a close sod; that recently set looked particularly fresh and vigorous. Lime has been used on this place to a considerable extent, and one of the most marked experiments in its value that we have ever seen was shown. A breadth seven steps wide was left without lime; this was nearly bare of herbage, while the adjoining land, which had an application of shell lime, was verdant with several kinds of grasses.

Our host informed us that the application of lime was the only difference in treatment. On our round of inspection we came across the veritable spring from whence the name of our neighborhood, Sandy Spring, was taken more than a century ago,—it appearing on a map of Maryland published in 1760.

The foreman leading us back to the house, we were refreshed by supper and by an extra good essay from one of our members descriptive of a visit to the farm of Judge Fullerton, in Fairfax Co., Va. The Judge, (a native of New York,) when buying several hundred acres in that county, was told that he had purchased some of the poorest land in the State. He replied: "That is just what I wanted; I intend to prove to the people of Virginia that there is no land in their State that cannot be made to produce 20 barrels of corn to the acre;" and he claims to have done it last year. He keeps a dairy of Holstein cattle, some imported, one of which is giving ten gallons of milk per day. It will be remembered by some that Fairfax county has been called in derision "Poorfax county."

The time for questions having arrived, Gilbert Smith asked, "What wages ought we to pay day laborers?" He said country wages were out of all proportion to city wages,—the former not having declined in anything like the same ratio as the latter. Asa M. Stabler said in reply that it was a question of justice and not of might; that we should fairly compensate our laborers, and not put them off with the lowest wages possible. Thos. J. Lea said that our mistake was in not making sufficient distinction between good laborers and poor ones. By paying both alike we offer a premium for idleness and unworthiness. B. H. Miller asked, "Shall I use oyster-shell lime at 16 cents per bushel, or stone lime at 20 cents, delivered on the farm?" Thos. J. Lea said he had never received any benefit from either; so could not say. Samuel Hopkins preferred stone lime; he found a bushel of it to weigh one-third more than oyster-shell lime, and the effect was more lasting. E. P. Thomas had not had much experience; but he believed in shell lime; he thought the extra weight in stone lime was made up principally of sand and other foreign substances, and that the shell lime acted more quickly; consequently the farmer was sooner compensated for his outlay.

T. J. Lea asked, "Will any member sow Hungarian grass or millet this season?" Wm. W. Moore, who has had some experience, recommended sowing before crab-grass season, as that and other fall grasses start so quickly as to interfere seriously with the millet.

Asa M. Stabler asked, "Which is the best plow for new land?" To which Frederick M. Stabler and Arthur Stabler both replied: "The two-horse Minor and Horton, with lock coulter."

Some one asked "How to use poles to blind ditches." Thos. J. Lea said, lay them in promiscuously but closely, and cover with dirt. Chas. H. Brooke said that meadow mice were very bad in pole drains, and that tiles were the only satisfactory thing to put in ditches. Granville Farquhar said that poles in the bottom of the ditch, covered first with small stones and then with earth, answered the purpose very well.

The subject selected for next meeting is: Which of the following methods will most rapidly improve land: to keep less stock and plow under clover green, or to keep more stock, feed the hay and apply the manure?

Then adjourned to meet at Asa M. Stabler's the 13th of April. Yours truly,

March 18th, 1878. N. E. D.

[We hope our correspondent will not fail to give us a report of the proceedings of the next meeting.—*Eds. A. F.*]

Haymarket (Va.) Agricultural Club.

Messrs. Editors American Farmer:

I take the liberty to enclose a small article published in a local paper, for your perusal, which, if of necessary interest, might find a place in your paper. I will say that we are organized similar to the "Gunpowder Club;" that we adopted the organization by reference to the *Farmer*, and that on several occasions articles were read by members on different topics from the *Farmer*,—the same being in the hands of most of us. As you will perceive, the slip refers to the vineyard and wine-cellar of Mr. C. A. Heineken, a valuable contributor to your paper, and I thought it well that the readers of same might know what he is actually doing. I will send you our proceedings monthly if you wish, in a condensed form. Consisting of different nationalities, our club having had different experiences, its reports will sometimes undoubtedly be of interest.

W. L. Heuser.

The third regular monthly meeting of the Haymarket Agricultural Club was called to order by President Brown, at Mill Park, the residence of Mr. C. A. Heineker, Prince William Co., with all the members present, on the 15th instant.

After the adoption of the minutes of the last meeting and the appointment of Capt. Tyler, A. H. Johnson and O. Wittichen as a criticising committee, the club broke up for the inspection of farm, stock, vineyard and wine-cellar.

Lord and Ladies Mill Park (Jerseys) were much admired.

Upon reassembling (after strengthening body and mind) the questions of the day were fully discussed, and the members were uniformly in

favor of sowing orchard grass more extensively, to harrow wheat thoroughly in the spring, even when timothy is sown in the fall, some advocating the use of the roller after the harrow. Land in good heart was considered necessary for the cultivation of German millet, and corn in drills was thought more profitable, although the curing is somewhat difficult when housed early.

A short description of the quite extensive vineyard and cellar of the host may be of general interest, especially as the enterprise is successful and becoming more profitable day by day, and the same is the result of energy, care, perseverance and study. The vineyard containing the Concord, Ives, Norton, Delaware, Elvira, Catawba, Isabella, and other varieties in variable numbers, contains about 18 acres, staked, wired and poled, and in bearing condition. Part of the crop has been shipped to Northern markets every year in small boxes and baskets, part made into different wines and sold to dealers in Baltimore and New York, and to an extensive and increasing private custom to all parts of the United States. The aim is to make wines resembling the hocks and clarets of Germany and France, as the taste of the wine-drinking public is in that direction. The cellar is walled and runs into a hill, has a two-story building above and can store about 20,000 gallons, mostly in 500 gallon casks. The wine is pumped by force to any part of the building, thereby excluding all the air. The fermenting, filling and packing is done in a room above provided with stoves, ventilators, &c. Next to this room is a dwelling, and the story above is used for storing bottles, boxes, crates, etc. In front of the cellar is a well with good water and a large boiler with fireplace for cleaning and steaming barrels. In all it is a most complete establishment in its way. Vineyards and cellar have been planted and built within the last eight years. The eastern slope of the Bull Run Mountains seems to be especially well adapted for the cultivation of the grape, and about 50 acres of vines have been planted and are thriving in the immediate neighborhood of Haymarket.

[We shall be glad to receive the reports of the proceedings of the club upon subjects of general character. No portion of an agricultural journal is read with more interest than these club discussions, which are generally participated in by men who are practically and daily engaged in the things of which they speak.—*Eds. A. F.*]

Farming Does Pay.

A farmer in Talbot Co., Md., writes the editor of the *American Farmer:* "I hope some day to show you a successful farm, that meaning with me, as I believe you understand, one that makes money—a good interest on the capital invested—whilst steadily improving in quality and appearance.

"If this place is a success, it will be a complete refutation of the commonly received idea that farming will not pay, for it was certainly 'run down' when I took it in hand in 1874; and while a considerable amount of money has been spent in buildings and things not really *necessary* to the working of the farm, but simply for my comfort, convenience or fancy, every dollar spent on or for the farm, in any shape, has been charged against it, and it has only been credited with actual sales—no estimates. I don't charge the farm with interest on the capital invested in it, or my own services, because I consider that offset by my living expenses, which the farm has to bear. I don't think the farm has the best of the bargain.

"I have put up miles of plank fencing and a good many sheds, and half-permanent improvements; but it has all been charged (after the first year) in the expense account of the year as incurred, except two items,—a smoke-house and corn-crib, amounting to $140—which were charged to capital account. Of course I keep a set of books; so I do not have to depend on my memory for my figures."

On the Use of Plaster.

Col. Robt. Beverly, of Fauquier Co., Va., is one of the best farmers in Virginia. Some two years ago he wrote for the *Southern Planter* a communication containing the results of his practice in the use of plaster, which attracted considerable attention, and inquiries for further information, to which Col. B. replies, in the same paper for March, in which he says that all his experiments since have fully confirmed every view then expressed. "But (he adds) for the benefit of those who may not have seen that letter, I will state that the proper time to sow plaster on *sod* land is from 1st of January to 15th of May; on clover, from 15th of March to 1st of May; on corn, broadcast, when it is about knee high, directly after last planting, and if too high, sow from horse-back with horse muzzled. I've seen good effects from plaster dropped in the hill with the corn when planted, and a great many farmers prefer that mode, but I prefer the former. On wheat, in the fall, soon after the wheat comes up. In clay, slow soils, I think, if sowed in the spring, it is apt to keep the wheat green late and make it more liable to rust.

"I think plaster, at its present low price, *pays* on *all* soils by absorbing the ammonia from the rain, snow and atmosphere, but especially on soils where there is much vegetable matter decomposing to absorb the ammonia from it, which might otherwise be lost. It should always be used freely in barn-yards, on dung piles and compost heaps. It should always be ground very fine. I have made annual experiments with it, in applications in various ways and of various kinds, that is, from many quarries, and I am more confirmed in my opinion formerly expressed—that there is a very great difference in its value; that some quarries are *valueless;* that others, especially one, is very valuable. I will state one experiment made testing its solubility: Early last spring we put lumps of rock plaster from five different quarries, all from Nova Scotia, in our mill-race, where there is scarcely any current; at the end of six months they were all

taken out; two samples had not lost an ounce or dissolved at all; two others had dissolved a little, but scarcely perceptible; while the other was perfectly honey-combed or gone into shreds, having lost fully two-thirds its original weight. This sample was of the quarry that my experiments on the land have proved to be the best. Finally, I think plaster at thirty cents an acre or six to seven dollars per ton by far the cheapest fertilizer a farmer can use; next to that, raw bone at thirty-five dollars per ton, which is about the present price—this is a durable, permanent fertilizer; also lime at six to eight cents a bushel on all grey, chocolate or white soils, wherever, as original growth, white oak predominates. On many red soils it does not seem to pay."

Sheep Raising in Tidewater Virginia.

In a letter from Gen. Meem, published in the *Southern Planter*, we make the following extract. After quoting a remark of Col. Washington that "God has given to Tidewater Virginia a climate unsurpassed for sheep raising, and preferred her by sixty days in lamb raising, and poorly has she utilized it," Gen. M. adds:

"There is no doubt about it that Tidewater Virginia and many of the Piedmont counties should control this early lamb business, and make it a source of immense profit as well as pleasure. Its adaptation to the growth of the early grasses, and its genial climate, makes this branch of it a specialty. The long winters of the Valley will never permit us to go into the early lamb market except at too great cost. In the first place, our ewes are not inclined to take the buck in a general way before the 1st of October, and a January lamb with us means almost death to the ewe, unless she is most carefully sheltered and strongly fed with grain; this makes the early lamb cost too much with us, for if he goes to the April market, he never sees grass.

"Therefore we of the Valley must rely upon wool and mutton. Let me just here call the attention of early lamb growers to the necessity of docking and castrating all lambs at an early age; even if there should be some loss, it will more than be repaid by the improved appearance and rapidity with which the wethered lamb will fatten. And now, sir, let me wind up this little sheep article with my customary advice: Don't go into the sheep business unless you intend to breed from the best thoroughbred bucks. It is not so important about the ewes, so they are healthy and strong. Give them plenty to eat, watch well, handle with great care, and there is no branch of farming that will pay better."

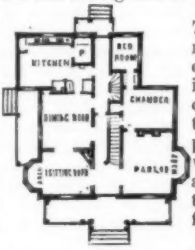
A Neat and Convenient Farm House.

The cuts here given illustrate a tasty, convenient and economical farm house erected from designs by Palliser, Palliser & Co., architects, Bridgeport, Connecticut, who furnish us the following description: On the first floor we have parlor, 14x17.6; sitting-room, 12.6x14; dining-room, 14x14.6; chamber, 11.2x14; bed-room, 8x9.8; kitchen, 14x14; pantry, 6x8.6; also waiter's pantry between dining-room and kitchen,

FRONT ELEVATION.

which is a very desirable feature and one that should never be lost sight of in the planning of a house,—as by placing the waiter's pantry or china closet in this position two doors are placed between these rooms, keeping the fumes of the kitchen out of the dining-room and main portion of the house.

The parlor, sitting-room, dining-room and hall can all be thrown together by means of sliding doors, a feature that is always appreciated by our fun-loving and social people.



FIRST FLOOR PLAN.

The second floor contains 7 chambers and sewing-room, with an abundance of closets—every room being supplied with a large one. The latter is one of the first things that our people inquire about—whether they are to build a home for themselves or take a mere stopping place for awhile.

The cellar is provided with a large milk-room, heater-room, vegetable-room, store-rooms, etc., and the whole of the house has a cellar under,—it being considered in the Eastern States at least to be poor economy not to have a cellar under the whole house.

The cost of erecting such a house as this under favorable circumstances would be about $3,000.

Green Manure Crops.

A correspondent of the *American Agriculturist* thus discourses on these:

Cheap and good manure is getting to be more and more important every year. We are finding it harder to buy manure, and more difficult to get concentrated fertilizers that are to be depended upon. Nevertheless, farmers make little use of green manure crops. It is hard to change old practices sufficiently to plow under a good crop of clover or even of buckwheat. I have a very poor opinion of buckwheat as green manure.

Rye is much better, and one can plow that under early enough to sow something else, to be either harvested or plowed under as the case may be. For instance, I witnessed the following successful treatment of a rough, stony, poor, gravelly lot, and hope to be able to carry out something quite similar myself this year: An old neglected lot, five acres of which would hardly pasture a sheep, was plowed and sowed with rye, which wintered well. A good many stones were picked off, and about the first of June, when the rye was heading well, it was rolled down and plowed under. Stones were partially picked off again—that is, the larger ones were—and about the first of July buckwheat was put in. Of this a good crop was harvested, and the straw, with a little addition of some other light manure, was spread back, and rye was sowed again in the autumn. This gave another opportunity to pick off the stones, and the result was that when the rye was a second time plowed under, the quality of the soil was so good that corn was planted with fertilizer in the hill. Of this a very fair crop was secured, and other farm crops followed. Now if cow-peas could have been sowed at the last hoeing of the corn, they would doubtless have covered the ground well. Then they might have been plowed under just before frost—as soon as the corn could be cut up and removed; then wheat or rye might have been sowed.

Light, poor land, really needs a growing crop to cover the soil all the time. Rye offers several advantages over other crops. It occupies the soil from October to June—eight months—during which time, when the ground is not frozen, the roots are absorbing nutriment and growing, so that when the warmth of spring comes the plant makes most rapidly the astonishing growth with which we are all familiar. It is a very certain crop, not being liable to winter-kill. Besides, it is cheap, the seed costing seldom over $1.50 per acre.

Red clover is no crop wherewith to manure poor land, though one of the best for land in good heart. It must, however, occupy the land fully a year, but after a good crop has been plowed under and the land limed, almost any crop may follow.

Feeding off before Plowing.

We raise few green crops which may not be fed off with sheep before they are plowed under. Turnips, rye, clover and cow-peas may thus be treated, often most advantageously. The difficulty I find is that I do not and cannot well keep sheep. Feeding off with other stock is not so satisfactory. The manure is less evenly distributed, and the crop is less consumed than trodden down. It is important to save labor, and the advantage of green manuring is that all that great amount of labor in harvesting, curing, storing, feeding out of the crops, and finally carting out the manure and spreading it, is saved. The actual value of any crop as manure is never so great as when it is plowed under just at the right time. When it is fed, we gain perhaps in other ways, but we lose in manure. This loss must be made up by the use of leaves, mold, muck, swamp hay, or other articles really foreign to the farm, or at least foreign to the arable land of the farm.

All Cotton Means Starvation.

The Hon. B. H. Hill, of Georgia, made the following terse and pointed remarks in a speech delivered by him, a short time ago, in that State. He said:

I tell you to-day, I care not what seasons may come, what large crops you may raise, still, under existing conditions, you will ever grow poorer who produce cotton, and they will ever grow richer who handle it after it is produced. Without a great change, the Southern States are destined to become so many plantations, practically owned by Northern people, and the Southern people so many hireling slaves to work them! And in this condition you will reap scarcely the wages and not half the respect you accorded your former slaves. And yet the very reverse of this fate is in your power. Under the present policy the next generation of Southern people will become the poorest, the most powerless and the most contemptible of earth's inhabitants, while under a wise policy the next generation of Southern people may become the richest and most powerful and the most respected people. Which destiny will we choose?

But, you ask, how can this better destiny be secured? I will tell you:

First make cotton your surplus crop! In these five words lie the Sampson locks of your future power. Make your own fertilizers by resting, cropping, grassing and manuring your lands. Thus, you become independent of your guano merchants. Raise your own provisions. Thus you become independent of the provision merchants. Your cheapest and safest line of transportation runs from your own fields and hog-pens to your own barns and meat-house. With no debts for your supplies, you will need no accommodation credits at two per cent. per month. Thus, you become independent of brokers, cotton factors and lien merchants. You can then sell your cotton at your own time, to your chosen buyers, and will get your own money. None of these things can a planter do who plants on credit and borrows money to buy his provisions.

But, you say, the Western States raise provisions so much cheaper, we can make more money by raising cotton and buying from them. This is the teaching of figures, and a greater lie was never taught.

Now, I affirm it is cheaper for you to raise your own provisions than to have them brought from the West and given to you at the nearest depot free of cost and charges. How is this? In the first place, if we raise 5,000,000 bales of cotton we will get no more money for them than we would get for one-half that number. Then out of the same amount realized, you pay for raising the 5,000,000 just double the cost of production. Half the labor and supplies employed in raising 5,000,000 bales of cotton could be employed in raising supplies without reducing the value of the cotton crop one dollar. But half this labor would raise more than you needed for supplies. You could employ much of it also in enriching your lands and improving your property in many ways. Then you would come to the end of the year with your crib full of corn,

your smoke-houses full of meat; your family full of smiles, yourselves full of independence and your pockets full of money for investment. And how would you invest it? In cotton factories on the waterfalls which God has sent all through your country to run spindles. This would make you independent of Old and New England both. Then, also, you would mine your own implements of husbandry which would make you independent of Pennsylvania foundries and Massachusetts workshops. In a word, every improvement would be built up in your own country, and all the profits of those improvements would go into your own pockets.

Go on as you are now going, making cotton your chief crop, and slavery is the doom of your children and your children's children forever. A people who depend on other people for food and clothing are and must be slaves.

The Dairy.

Forage Crops for Dairy Farming.

At a late meeting of the Vermont Dairymen's Association, Mr. A. W. Cheever, the able editor of the *New England Farmer*, delivered an address, which embodied mainly the results of his own experience in dairy farming, from which we make some extracts which we know will be of interest to our readers, who will of course make allowance for the difference in dates due to latitude:

Mr. Cheever said he believed an animal might be kept on each acre cultivated—that a hundred acres of tillage land could profitably be made to support a hundred average animals, such as a dairy farmer would have who raises his own. Was not sure that a hundred full-grown animals could be kept, but *was* sure that very few farmers have yet learned the productive capacity of their soils when under the highest state of cultivation. A great mistake of farmers is in cultivating too much land—more than they can cultivate well.

There are very few farmers who would not do better to concentrate their labor on fewer acres, and thus get more income from those acres. Farmers should *use* their land more. We can raise a crop of hay in about two months, and but three months are required for corn; but the interest and taxes on the capital are paid for the whole year. If we can grow two crops in a season from the same land, we save half the charge for interest and taxes.

My own method is as follows:—I put a large share of my land into winter rye, in the fall. Rye can be thus put in after the summer crops have been harvested. Last year I had five and one-half acres in winter rye, and shall have three this year. It lengthens the summer and shortens the winter feeding season. From the 8th to the 18th of May, the rye has been heavy enough to cut for fodder; and as soon as it is so, I begin to cut and feed it green with some dry hay every day, at first. This brings the cows through the season when they often become "spring poor," and lengthens the season of green food from twenty-one to twenty-five days. As soon as the rye heads, and before it blossoms, I cut it all with machine and make it into hay, in the usual way; I sow the rye at three different times in the fall, thus extending somewhat the time for cutting and harvesting it. My first sowed crop in the spring, is spring rye. It is as good as the winter rye; but its season is short. At the same time, I sow oats, either on old ground or on green-sward well turned under, the soil pulverized and well manured in the fall previous. On this, oats will do as well, the next spring, as on old land. Oats make a rank fodder, and heavy crops can be raised. Barley is also an excellent fodder. It can be sowed late for October and November feed. It stands the frost well, does not rust, and can be raised both as a fall and spring crop.

For the hay crop, farmers confine themselves too much to redtop and timothy. A greater variety is better. If but one kind is used, it ripens all at once, and must be cut in a short time. I sow orchard grass, June grass, and clover for the earliest kinds. These ripen together, and can be cut as early as the 10th of June, or even earlier, some years. I put these on my best land, and on good, moist fields get two crops every year,—the second crop being very leafy and making the best of rowen. These ripen four weeks earlier than the latest kinds, and, with a fair proportion of these, you can begin haying in June, and can drive it instead of having it drive you.

For corn fodder, I sow the Southern, Western Flat and sweet varieties. Last year I sowed Western corn broadcast, seven bushels to the acre, as early as the season would permit. I began to cut it with a scythe, June 28th. It was then twenty inches high, and we were cutting from it for three weeks. Corn, if planted early, while the weather is cool, can be sown very thickly and forced with fertilizers, and will grow stiff and strong. The same corn, sowed four weeks later, will lodge. This early, thick-sown corn should always be cut before it shows a blossom. For late corn fodder, I use a sweet variety. It must be planted thinner than the early crop, as it will grow so fast in the warm weather that it will not stand up under winds or showers. Corn of the late plantings may grow till the ears show.

I also sow millet. Of this, three varieties are grown—millet, Hungarian grass, and the golden millet. [Mr. Cheever exhibited specimens of the latter.] Golden millet is a stiff, hard, but leafy grass. It looks as if it would make inferior food for cattle, but they take to it well. It is of quick growth. It is of no use to sow it early. It needs the warm weather, and stands dry weather well. It should not be sown before the 1st of June, and in Eastern Massachusetts can be sown as late as the 1st of August, with prospect of a fair but not a full crop. From the 1st of June to the 4th of July is a suitable time to put it in. It may follow an early hay crop. Turn the grass under and work the soil up well, and there will be time enough to raise a crop of millet. The golden millet requires ten to twenty days longer time than the other kinds, but gives a heavier crop. I had last year five and a half acres of winter rye, six acres of millet, four acres of oats, three acres of corn fodder, one-half acre of barley, one-half acre of spring rye and thirteen acres of

grass—all on twenty-five acres. Nearly all the mowing was cut twice, and three acres of it was cut three times. The millet followed the winter rye on the same land. The corn fodder was all raised on greensward turned under, and was followed by barley for fall feed, and winter rye for the coming spring. The first cutting of this grass was on June 5th; the second, August 1st and 2d; the third, in October. Rye is off by the first week in June, and then there is ample time to put in potatoes or any hoed crop on the same land. The winter rye grows when nothing else would, and all above the labor and cost of fertilizers is clear gain. Oats cut for fodder will be off in time for a crop of millet. In some seasons, two crops of corn fodder may be raised; but barley, I think, is better for the second crop after early corn. I commenced to cut green rye fodder, last year, the second week in May. I aim to be through haying by the 4th of July. By August, the second crops commence. The later corn is in condition to cut by the last of August. I feed it, coarsely chopped in a hay cutter, which cuts it into pieces eight or ten inches long, and there is no better fodder than such corn. Corn cannot be used green after a frost; but cut and shocked, it may be kept a month in the field, or in sheds as long as it will stand up. It will not keep packed like hay. Barley, wheat and oats are not injured by frost, and may be cut till nearly December, or till the ground freezes.

I bought eleven tons of shorts this year, to feed my stock and hogs. I buy such feed and grain in preference to buying hay.

My land was in poor condition when I took it, and I have purchased fertilizers freely, using from $400 to $500 worth of Stockbridge and other commercial and "slaughter-house" fertilizers, within the past eighteen months.

Is the Guenon Theory a True Guide in Selecting Cows for the Dairy?

At a recent meeting of the Montgomery County (Md.) Dairymen's Association, in an essay written to answer this question, Mr. J. L. Massey said that although until lately he had thought it one of the most unmitigated humbugs, barefaced theories, ever attempted to be palmed upon unsuspecting mankind, that by merely looking at a cow it may be told how much milk she can be made to yield, how long she will continue to give milk after being got with calf, and, more absurd than all, whether her calf itself will be a good milker, yet his researches had had the effect upon his mind that information upon any subject so frequently has over ignorance, of producing a radical change in favor of the theory, and he now believes it would be to the interest of every one who has or expects to have any traffic whatever in dairy cows, to make himself sufficiently familiar with the characteristics of the first and second orders of each class, as described by Guenon, to the end that at least no calves of the other classes would be allowed to become milch cows.

Mr. Massey said there are cases where the theory will not hold good; for the productiveness of a cow to a great extent depends upon the food, season, climate and the person who handles her; and to devote sufficient time to the subject so as to be able to classify every cow that comes under one's observation, would take more time and practice than many farmers who have other duties devolving upon them could devote to it; but as we only want first-class dairy stock, such extensive and special knowledge is not needed,—only, as I have before said, a practical knowledge of the first and second orders of each class. A knowledge of this much is within the grasp of any one, all that is requisite being, after having examined an animal and ascertained what marks she bears, to examine the drawings and fix upon the one in which those marks appear; then by means of a brief but precise explanation which refers to that drawing, the qualities of the animal and all others having corresponding marks are easily decided upon. By pursuing this method for some time you will soon become sufficiently expert so as to be able to lay aside the book and plates. But it must be borne in mind, in this as in all things, that "There is no excellence without labor," and that "Practice makes perfect." The theory, like many others connected with nature, is unexplainable; yet it has the strongest facts to substantiate it. Now that it has been established by repeated testimony, both here and in other countries, too conclusive to be doubted or overthrown by the most incredulous, let me ask what is there in it any more wonderful or out of the way that lactiferous secretions should produce and show themselves in external marks, than that other faculties are known to produce marked difference in form, color, &c. In estimating the weight which should be given to cases appearing to conflict with the rule of Guenon, it ought to be remembered that the milking capacity of any cow may be greatly affected by her surroundings. It is not her organization alone which determines her milk yield; the same cow brought up from birth on good or poor food or rich pasture, managed just right or wrong, milked by an intelligent and conscientious person who invariably draws the last drop, or by an ignorant don't-care milker who every time leaves a gill or more, will make a better or poorer milk cow, let her Escutcheon be what it may. Numerous ailments, too, of the existence of some of which in the interior organization of the cow the owner may have no suspicion, injurious changes in the hidden lacteal system incident to parturition, these and other subtle causes may operate in exceptional cases to render a cow endowed by nature with a superior milking organization, and having all the outward marks of it, an inferior milker. Nature also always reserves for herself a more or less limited range to play tricks in, and seems to delight in puzzling man with some exceptions to most all of her rules.

In conclusion, let me advise you not to be satisfied with the hearsay of any one either *pro* or *con* on a subject of so much importance and

interest to the members of this body especially, but, armed with Guenon's book on "Milch Cows," to study and apply the theory until you prove conclusively to your mind the truth or fallacy of it. Perhaps those who are not satisfied with the Escutcheon as a guide in selecting a good milch cow may find a better one in the following doggrel lines, which appeared in *The Farmer's Magazine* a few years ago, as combining what are popularly considered good points of a cow:

She's long in her face, she's fine in her horn,
She'll quickly get fat without cake or corn;
She's clean in her jaws, and full in her chine,
She's heavy in flank, and wide in her loin.
She's broad in her ribs, and long in her rump,
A straight and flat back, without e'er a hump;
She's wide in her hips, and calm in her eyes,
She's fine in her shoulders, and thin in her thighs.
She's light in her neck, and small in her tail,
She's wide in her breast, and good at the pail,
She's fine in her bone, and silky of skin;
She's a grazier's without, and a butcher's within.

[In the *American Farmer* for May, 1873, will be found an elucidation of the system, with cuts, by Mr. Chalkley Harvey, of Delaware county, Penna., whom a large experience as a dairy farmer had led to believe in its value and truth.—*Eds. A. F.*]

Ayrshires or Short-Horns for Cheese—Jerseys for Butter.

At the late meeting of the New York State Dairy Association and Board of Trade, a Scotchman, Mr. M'Adam, long acquainted with the business in his native land as well as in the home of his adoption, gives the following as the result of his experience as to the merits of the two breeds, the Ayrshires and Short-horns, for the purposes of cheese-making:

He said he began dairying in 1843, in Scotland, and followed it till 1869; that in 1864 he milked 240 cows; that he had studied the two breeds carefully on the farm and at fairs; that he had known many large milkers among the Short-horns. He thinks the preference given by the best Scotch dairymen to the Ayrshire over the Short-horn, where either could be easily obtained, ought to go a good way in deciding the question between the two; that a few great milkers are not evidence of the general quality of a breed, but rather the average produced by large numbers. In 1863 he purchased the milk from a neighboring Short-horn herd, and mixed it with that of an Ayrshire herd, and found that the mixed milk was poorer than that of his own herd had been before. He made a comparative test the next season, (1864,) and, for the month of June, found the following result:

Ayrshires—64 cows—65,380 lbs. of milk; cheese, 6,424 lbs.—ratio 10.17; daily average of milk, per cow, 33 lbs.; cheese, 3¼ lbs.

Short-Horns—64 cows—52,680 lbs. of milk; cheese, 4,797 lbs.—ratio, 10.98; daily average of milk, per cow, 27 lbs.; cheese, 2 7-15 lbs.

He says both herds were pastured in adjoining fields, on land of similar quality. Both herds were esteemed first-class of their respective breeds. He says, for some years he was instructor in cheese-making, and made cheese in 100 different places, and had opportunities of examining a great number of herds; took notes of the yields of various dairies, and the general results were in favor of Ayrshires. He thinks that land which will maintain nine Short-horns will keep ten Ayrshires, and that the latter will yield more and richer milk, and are hardier and more prolific. For a period of 25 years, the average yield of his own dairy was 500 lbs. of cheese per cow. The great points of an Ayrshire cow are her udder and teats. The udder must reach well forward, and be firmly attached up to the body, not coming out behind, or hanging loosely down; the quarters alike in size, and the teats set on widely and equally apart, neat, and not very large, square at top, like a cork,—not hanging together like a bunch of parsnips under a loose, flabby bag.

On the other hand, the Jerseys, for the butter dairy, stand unrivalled in the quality but not in the quantity of their milk, as we have in these pages demonstrated beyond the shadow of a doubt. We will add the following description of a cow given by the *Live Stock Journal*, as probably surpassing anything on record in the way of the production of butter:

"Jersey Belle."

The Jersey cow, recently alluded to in *The Journal* as the one for whom her owner had been offered and refused $5,000, is the finest specimen of the breed of which we have any accredited record. She is five years old. She calved last March, and in ten days thereafter, being tested, it was found that she was making three pounds and two ounces of butter per day. She averaged 20 lbs. per week for three months, and in August last made 18 lbs. per week. She has the following record for 1876: Through March, 19½ lbs. per week; in June 16 lbs. per week; in September 14 lbs. per week, and in December 1 pound per day, and due to calve in about two months. Five quarts of her milk made a pound of butter all through the summer, and in December 4 quarts only were required. Her feed in summer is common pasture, with an addition of two quarts of shorts at night. In winter she is fed on rowen hay and two quarts of shorts per day. If "Beauty is what beauty does," she is well named "Jersey Belle," and no wonder that her owner, Mr. Chas. O. Ellms, of Scituate, Mass., refuses to part with her at any price, proposing to keep her as long as he or she lives.

Cooking Food for Dairy Cows.

A correspondent of the *American Farmer* writes:

One thing strikes me in many reports of experiments that I read, that they are partial. For instance, I have read many reports as to the benefits derived from steaming food for stock, yet none of them mentioned an important fact: I built a steam box after a pattern suggested in the *American Agriculturist*, the whole affair only costing about $15. I cut up two parts first-class

top fodder to one part of sound sweet hay, using with it roots cut fine and meal, just as I had been doing before I built the steam box, which put the food in excellent condition, the cows eating it up clean; but the cream after standing 48 hours was as bitter as quinine, and we could not eat the butter made from it at all. Now, why did not some one who had tried it state that corn fodder steamed is bitter itself and renders the cream of cows eating it entirely unfit for churning, as it certainly does? N.

Live Stock.

Cleveland Bay Stallion "Vanguard."

We give on the following page an engraving of this stallion, now four years old, imported in September, 1877, by the Fox River Stock Association, of Elgin, Ill., and a good type of the general utility horse now so much in demand all over the country.

Of the Cleveland Bay Horse, Mr. Geo. E. Brown, the manager of the company, speaks as follows:

He derives his name from his beautiful color, and the fertile district of that name in the North Riding of Yorkshire, in which he originated. Since the advent of railways in England, vehicles of all descriptions have been constructed much lighter than formerly, which has created a demand for lighter horses. The Clevelands have changed in this respect, and are now quite different horses from fifty years ago. This has been brought about partly by a greater infusion of the blood of the race-horse, and partly by judicious selections from the smaller and finer families of Clevelands.

The Cleveland of to-day stands from 16¼ to 16¾ hands high, and weighs from 1,350 to 1,500 lbs.

Youatt, speaking of the improved horse, says: "Now we have an animal tall, deep chested, rising in the withers, slanting on shoulder, flat in the legs, with far more strength, and treble the speed."

Prof. Low says: "It is the progressive mixture of the blood of horses of higher breeding with those of the common race that has produced the variety of coach horse usually termed Cleveland Bay. About the middle of the last century Cleveland became known for the breeding of a superior class of powerful horses, which, with the gradual disuse of the heavy old coach horse, became in request for coaches, chariots, and similar carriages. The district of Cleveland owes its superiority in the production of this beautiful race of horses to the possession of a *definite breed*, formed not by *accidental mixture*, but by *continued cultivation*.

My attention was attracted to this horse long before I ever expected to own one, and I was convinced he was THE HORSE much needed in many parts of our country to cross with our ordinary mares, to produce not only desirable farm and general purpose horses, but elegant coach and carriage horses, so much sought after for city use, and which command higher prices than any other class of horses for ordinary purposes.

Cleveland Bay stallions have been occasionally brought to this country, and the result of the cross on ordinary mares has been highly satisfactory; the offspring is proverbially uniform in color, style and general make-up, and, which has been a surprise to a great many, they (the offspring) are much larger, have a better development of bone and muscle, and are far better proportioned than the get of certain immense horses, whose *only advantage is their size.*

The cause of all this is found in the nice proportions of the Cleveland, his superior muscular development, and although of suitable size, the contrast between him and our native mares is not so violent as would be the case if crossed with some other breeds.

As yet we have but few colts to show from horses of our own importation. Criterion, the first, was but two years old when imported, April, 1875, and died in the spring of 1877; hence, never made a full season; but what few colts he got are very uniform in style, color and size, although out of mares quite unlike.

One valuable peculiarity of the Cleveland Bays is their rich color, *always bay*, with *black points*, and *seldom any white marks*, being a part of their breeding, is transmitted to their offspring with almost absolute certainty, and being of great advantage in breeding for matched teams.

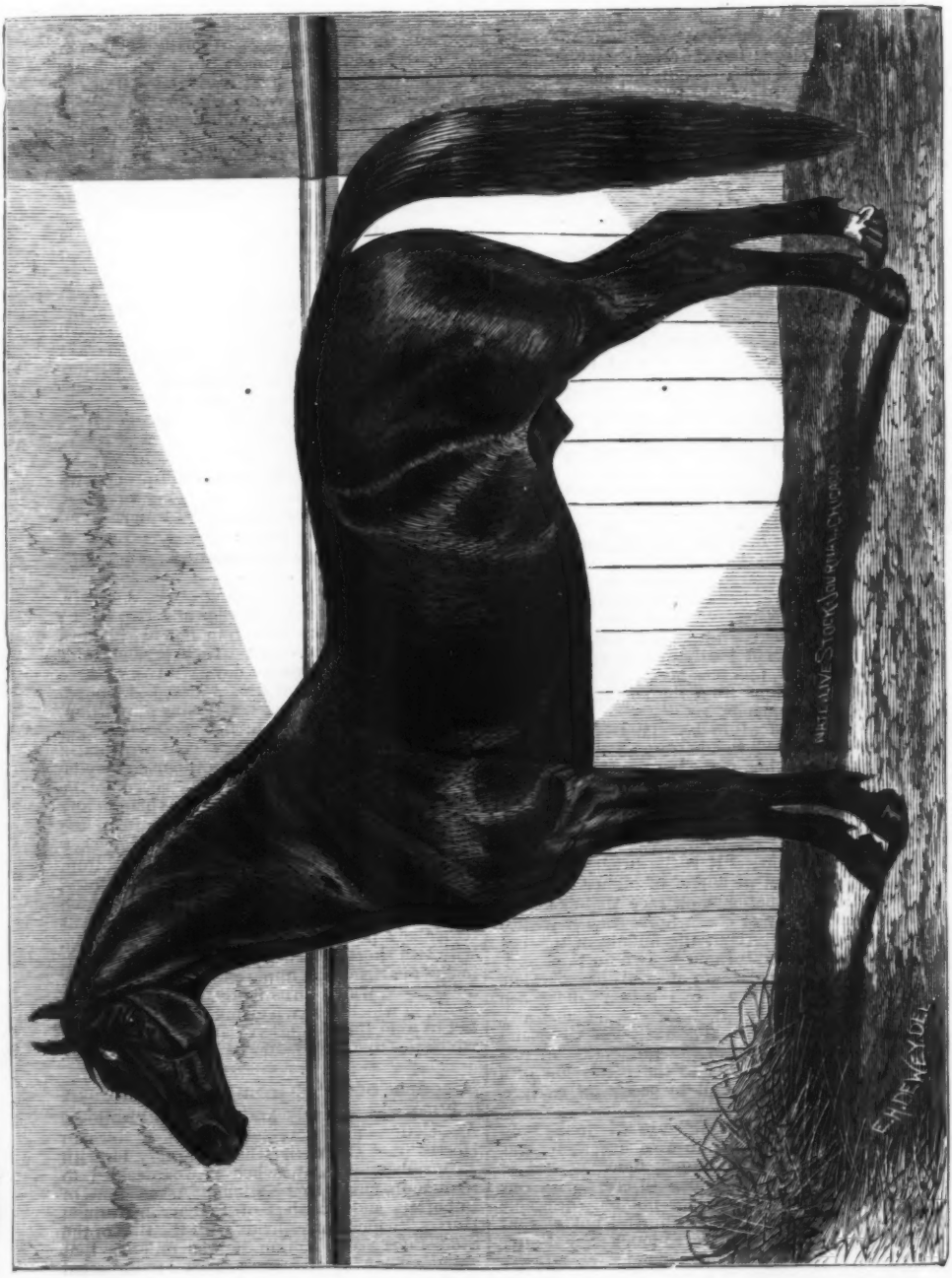
Feeding and Management of Calves.

The following is the method pursued by Mr. T. J. Hand, a successful breeder of Jersey stock: The calves are weaned at from one to six days old, and taught to drink. They receive milk fresh from the cow twice a day until two or three weeks old, from which time warmed skimmed-milk is added in gradually increasing proportion, until at the end of about five weeks they get skimmed-milk only. In very cold weather, a little thoroughly-cooked corn meal mush may be stirred in. All the skimmed-milk is fed to the calves, the larger ones receiving it as long as any can be spared after taking proper care of the younger ones. If the season is favorable, they are tethered as soon as weaned, and moved from time to time upon clean, fresh grass. In Winter, steamed hay and bran is the chief food for such as are old enough to eat it. The most convenient tether is a pointed iron rod fifteen inches long, with two rings welded around it, one and a half inches apart, near its upper end. Between these, a flat hook, which turns easily, holds two feet of chain, in which is a swivel link; and to this, four feet of rope, three-eighths of an inch in diameter, which ties to a head halter or leather neck-strap.

Breeders of Percheron-Norman Horses.

What was formerly known as the "National Association of Owners and Breeders of Norman Horses" met at Peoria, Ills., February 14, with 75 members present, when it was decided to change its name to "National Association of Importers and Breeders of Percheron-Norman Horses," which corresponds with the title of the Stud Book. On motion it was ordered that animals showing five pure crosses to imported or native purely-bred stock should be admitted to record in the Stud Book.

DISCREPANCY IN PRINTING



CLEVELAND BAY STALLION VANGUARD—SEE PAGE 131.

CLEVELAND BAY STALLION VANGUARD—SEE PAGE 131.

Hereford Cattle.

An attempt is being made in the West, especially by a Mr. Miller, who is an extensive breeder of the race, to bring the Herefords into favorable comparison with the Shorthorns as beef-producers; but like a similar effort in the East by Mr. Southam, some years ago, it seems to make little headway. In this State there have been one or two herds persistently shown in the show-yards, but they have made no impression upon the native cattle as compared with other breeds. The *National Live-Stock Journal*, than which there is no higher authority, after giving Mr. Miller's claims, sums up very conclusively the conditions of the question, by saying: "But few Shorthorn breeders will admit the correctness of the statement made by Mr. Miller as to the fattening qualities of the Herefords," and adds:

"A large proportion of the breeders of Shorthorns are practical farmers, breeding and feeding cattle for the returns which they give in beef and milk for the food consumed, believing that they are the most profitable race of cattle in the world for this use. Hereford breeders claim that this breed is as old or older than the Shorthorns; and the question may well be asked: If they are a superior race, why have they not been more widely disseminated? The Shorthorn breeders say that bulls of this breed are used to cross on all other sorts where beef and milk are wanted. Why have not the Herefords been in demand for the purpose if the breed possesses equal merit? These are practical questions that present themselves to those who really want to learn the bottom facts."

We gave a few months ago the estimate of these cattle of Dr. M. G. Ellzey, Professor of Agriculture in the Virginia Agricultural College, who says the true test of the value of the thorough-bred breeds of domestic animals is the excellence of the grades they produce, and that here the Herefords are unquestionably overmatched by both Shorthorns and Devons, as both those breeds excel them in the quality of their flesh, and their deficiency as milkers unfit them for the general farmer's use.

The *American Agriculturist*, in printing a letter from Mr. Miller extolling the Herefords, gives the following as its verdict:

"The fact that there are a hundred Shorthorn herds in existence for one of Herefords, must be taken to prove that, for some very good reasons, the Shorthorn is superior to the Hereford.—Fashion must have something to back it."

Good Sale of Jerseys and Guernseys.

A shipment of these cattle, made by Mr. Fowler, sold last month in New York at very good prices. Of the Jerseys, Lilly W., 2 years, brought $620, and others from $220 to $560 a head. A cow calf, just dropped, sold for $120, and a bull calf, 4 days old, for $75. 23 cows and heifers averaged $369. Two Guernsey heifers sold for $170 and $300. The aggregate of the sale was about $9,000. Maryland is credited with one purchase,—Mary Jane, 2 years, bronze, with black points, sold for $420, to C. Hand.

Heavy Poland-Chinas.

Messrs. Editors American Farmer:

I have just killed two thoroughbred Poland-China hogs that weighed 938 lbs.,—one weighing 500 and the other 438. I also killed nine seven-eighths Essex that averaged 323 lbs. each. The eleven hogs weighed 3,839 lbs., or an average of 349 1-6 lbs. each. I send the above thinking it might be of interest to your many readers, and to show what blooded hogs can be made to do. If I could have kept them a month longer I could have made the two Poland-Chinas weigh at least 100 lbs. more, as they were not fat. I killed a hog earlier in season, one-half Essex and one-half Poland-China, 9 months old, which weighed 327 lbs.; it was fed on slops from house.

Louisa Co., Va., Feb. 8, '78. F. W. CHILES.

Exportation of Poland-China Swine.

Some shipments have been made of this American breed of hogs to England, where they arrived in good condition and were much admired by all who saw them. A letter to the *Live Stock Journal* says they will hold their own in the show-yard with the best of Old England's breeding, and the editor remarks he is of opinion that this is but the beginning of what will ultimately prove to be a considerable demand from other countries for Poland-China swine for breeding purposes, which cannot fail to add largely to their popularity among our own people.

Sheep Raising in Tennessee.

The Hon. Tom Crutchfield, of Chattanooga, in an essay on this subject, gives the following as the result of his operations:

My ewes are now lambing, in which they have heretofore been very proficient. At one time 23 ewes brought consecutively 47 lambs; 22 having twins and the 23d triplets. In 1877, 50 ewes raised 79 lambs.

Since 1866 I have received for sheep and wool sold	$3,974.00
I have now on hand 100 head which I could not replace by purchase for	1,600.00
Value of flock and increase from it	$5,474.00
I have expended for breeding ewes and rams	657.50
Leaving a gross profit for twelve years	$1,816.50

Or over 60 per cent. per annum upon the capital invested, supposing the same to have been invested at the beginning while about one-half of it has been invested within the past few years.

We would say that there can be no doubt of success when facts are so well sustained and whilst we are satisfied that our farmers are doing all they can, yet there may be another step forward in their prosperity by increasing their flocks of sheep.

Pigeons.

"CELIA.—Here comes Monsieur le Beau.
ROSALIND.—With his mouth full of news.
CELIA.—Which he will put on us, as pigeons feed their young.
ROSALIND.—Then shall we be news-crammed."—*As You Like It* (act 1, scene 2.)

From the earliest times have pigeons been identified with sacred history. The Bible tells us of the dove returning to Noah in the ark with an olive branch. Wilkinson relates a curious legend of the Arabs respecting the bird: "They say that the first time it returned with the olive branch, but without any indication of the state of the earth itself; but on its second visit to the earth the red appearance of its feet proved that the red mud on which it had walked was already freed from the waters; and to record the event Noah prayed that the feet of these birds might forever continue of that color, which marks them to the present day." The common pigeon is what was then called the dove.

The pigeon fancy is so infatuating that a person once the possessor of a pair of the numerous varieties—of which there are upwards of seventy—cannot well be satisfied to get along without them. To those who are fond of pets—a trait that should be greatly encouraged in children—there is nothing more attractive or to which a greater attachment will be formed than pigeons. Certain it is that nothing in animated nature could be much handsomer than some of them. If well cared for they soon know their provider, and show unmistakable evidence of their confidence by alighting on the hand and arm of their owners and partake of food. They become greatly attached to their homes. The numerous kinds are divided into two classes, and are designated as the high-class and toy varieties. The high-class birds consist of Pouters, Carriers, Barbs, Owls and short-faced Almond Tumblers. Those called Carriers are *not* the great race-flying birds of such wonderful homing qualities known as *Antwerp Carriers*. By reference to our cut (kindly furnished by the *Poultry Bulletin*, New York,) will be seen on the left side a picture of the Carrier as bred for the show room. They are a long stout-built bird and rapid flyers. Head very long,—the bill having a mass of red-dish-white fleshy protuberance encircling it at the base, (which pigeon fanciers call wattles,) and the iris around the eye is usually large, round and uniform. These birds have been known to come direct home from a distance of twenty miles or so. The Antwerp Carriers have been flown in Belgium five hundred miles. The bird adjoining the Carrier in the cut is the Fantail—one of the most popular of the toy varieties. Well-bred birds are very attractive. The third pigeon is the Pouter, (or *blower* as called by some.) They are curious birds and entirely different from any other breed. They have a capacious wind-bag in front, which when blown full of wind gives them quite a balloonish appearance. They can blow themselves up at will. Fine specimens bring enormous prices. At the last Baltimore exhibition five hundred dollars was refused for one bird. The bird nearest the back of the Pouter is the Turbit; they are small and handsome. The plumage is white, excepting wings, which are of various colors,—as they are bred in nearly all colors. There are wing and tail Turbits—that is, white with colored wing and tail matching—and also solid-colored birds. On the breast the feathers turn outwards, forming a rosette or frill. The bird on lower right corner is the Barb. They are also bred in all colors *except* blue. When I say *all colors* I mean those to which pigeons are bred, which, generally speaking, are black, blue, white, red, dun, yellow and brown. The Barb has a very broad head, short beak, a large circle of iris bright red around the eye, which, in good specimens, gives the birds somewhat the appearance of having on a pair of spectacles. One can have the satisfaction of keeping as many kinds of pigeons *in one loft* as there is room for, and if properly mated before they are put in, they will not cross. The manner in which they feed their young is so different from that in which any other bird does, that it may here be worthy of mention. The first feed is what is known as "*soft food*," and is of

a *milky* nature; so you see the phrase pigeon milk has some foundation. The male and female are supplied with this soft food and feed the young, and also take turns in sitting on the eggs. As soon as hatched, nature has supplied the parents with a store of the soft food, which is fed to the young in the following manner: the young inserts its bill between that of the parent bird near the base, and the feeder then with a peculiar motion of the neck, injects the feed down the throat of the young. For the first few days the young have their *eyes closed*. The *soft feed* lasts several days or nearly two weeks, when whole grain is fed the young in the same manner, until they are able to take care of themselves. The old birds often go to setting again *while they are feeding their young*. Instead of holding their heads up like fowls when they drink, pigeons immerse their bills deeply in the water and quench their thirst without removing them. They drink a great deal of water. Should your readers become sufficiently interested in these feathered beauties to justify it, I may in some future number of the *Farmer* tell them how to feed and manage pigeons.

Brooklandville, Md. G. O. BROWN.

Setting Eggs, Transportation, &c.

By G. O. BROWN, Montvue Poultry Yards, Brooklandville, Md.

It is a recognized fact that hens that steal their nests are the most successful "hatchers." The reason assigned for this is generally said to be on account of her selecting the nest in some secret place upon *the ground*, which furnishes necessary moisture. This is true, but the greatest reason of her success is that she and the eggs get a good *letting alone*. One of the great troubles fanciers have who sell eggs from thoroughbred fowls is, their purchasers will not let the hen and eggs alone after they are once set. "Particular care" does more harm than if they are left to chance it. Eggs from pure-bred fowls need no more attention when set than those from common fowls. It is well enough if you set valuable eggs to divide the setting with at least two different hens—for sometimes one may prove a very poor setter. The question is so often asked me by letter whether eggs sent by express will hatch or not, that I conclude to answer in the *Farmer*. If eggs are fresh and good when sent out they should hatch about as good a percentage as when set at home. I have sent eggs to the far western states and had eleven out of twelve hatch. Eggs that I shipped to England hatched eighteen out of twenty-six. In several cases have had all that was sent hatched.

The nests for laying hens should be overhauled and renewed two or three times during the season, the boxes being whitewashed thoroughly as often as is necessary, and fresh material being abundantly supplied. The nests for sitting hens should be renewed every time a fresh batch of eggs are set. By this means you need have but little fear of lice, the great pest of the poultry-breeder.—Ex.

Work for the Month—April.

Work already in progress must now be pushed forward with diligence to completion. The season of the farmer's most active labors is at hand, and it behooves him to turn to them with earnest disposition to do the best in his power to achieve and deserve success.

The Corn Crop.—The best preparation of the ground that is possible always pays best. Complete pulverization of the soil and abundant manuring are the requisites for good crops. Nothing is better for the crop, it is probable, than well-rotted barn-yard manure or composts with some more concentrated material in the hill. For the latter purpose, super-phosphates, bone dust and ashes, a mixture of hen manure, plaster and salt are recommended. There is little danger of making the land too rich, and the crop will assimilate food from coarser materials than would be suitable applications for some other crops, but care must be taken in applying the more concentrated materials in the hill, not to bring them into immediate contact with the seed lest it be be burned.

To secure seed corn against insects and vermin, some planters resort to a soak of, say, two pounds of saltpetre to a gallon of water for each bushel of corn; whilst others stir the seed in hot tar, a pint of which will thinly cover the grains in a peck of seed.

Custom largely influences the mode of planting, whether in hills or drills, &c. Where close planting is followed, heavier manuring is of course desirable. On heavy soils, and those rich in decaying sods and vegetable remains, planting may also be closer than on light lands.

The first working can hardly be given too soon after the plants appear above ground. The cultivation afterwards will depend on the season. The previous preparation of the land and the earliest workings of the crop are facilitated by the use of the smoothing harrow.

Oats.—If not in should be seeded as soon as possible, giving due care to preparing the ground. Some farmers plow very shallow for oats, so that they may have a compact seed-bed. The crop is one which demands more liberal treatment than, very frequently, it receives.

Potatoes succeed best only when the ground is well plowed, light and mellow and in good heart. The use of coarse unfermented manures is to be avoided, and if composts are used they should be thoroughly decomposed and broken down. The inorganic manures do well with this crop, and especially such as contain potash, a mixture of ashes, plaster, &c.

Mangel Wurzels and Sugar Beets.—We cannot more urgently recommend than we have heretofore the trial of a few of these roots. Their value in feeding stock can hardly be overestimated, when their health-preserving qualities are considered.

The New York *Times* has the following pertinent advice on this subject:

The culture of roots can only be profitable in good farming. With poor soil, defective cultivation, weeds, stones, uneven plowing, and all the obstacles of poor farming, a root crop can-

not be grown with profit. The expensiveness of the needed culture cannot be borne unless the crop reaches at least 1,000 bushels per acre. Root crops require heavy manuring, good plowing, thorough harrowing, and the prevention of the growth of weeds. There must also be general high culture of the whole farm to support the live stock needed to consume the large growth of roots. Farmers who feel deficient in the respects referred to cannot expect to become more than beginners in the art of growing roots. But there must always be beginners, and every improvement comes after disappointments and failures.

To grow roots, then, the soil must be in a good condition. It will not do that we use raw manures alone for these exacting crops. There must be ample supplies of easily digested soluble food in the soil, and these are furnished only by previous manurings, or by the help of proper artificial fertilizers. The soil must be in a condition of unusual fineness and mellowness. It must also be freed from weeds by previous good cultivation, else the hard labor of weeding between the roots will exhaust all the return of the crop. If these requisites are present, it will pay to grow roots. If they are not, it will still pay to learn how to grow them.

For those who are prepared, or for those who will begin, the methods are the same. A piece of fall-plowed land should be selected, or a piece of clean stubble should be plowed as soon as possible. The ground should then be cross-plowed, and afterward opened into furrows 30 inches apart. In these furrows manure should be dropped at the rate of six loads per acre. The furrows are then closed by the plow, leaving a slight ridge over the manure to mark its place. The surface is then smoothed by a harrow drawn upon its back, the best tool being a flexible chain harrow made for the purpose. The seed—four pounds per acre of beets or mangels—is then drilled or sown in a small furrow directly over the manure; 200 pounds of super-phosphate, bone flour, or guano, is scattered about the drill and the seed is covered. The after-cultivation consists in thinning the plants to 9 or 12 inches apart and keeping the weeds down severely. By July the broad leaves of the mangel will meet across the drill and prevent the further growth of weeds; but the smaller leaves of the sugar-beet will not do this. If one root of six pounds weight is grown to every foot of row the crop will be 52 tons or 1,300 bushels per acre. For feeding, a crop of mangels or sugar-beets is worth from 10 to 20 cents a bushel, so that the profit of the crop may easily be estimated. The best mangel is the yellow globe; the best beet, Lane's imperial sugar-beet.

Carrots—Probably are more nutritious than any other roots, though of course they require more labor to raise, so great is the difficulty of keeping them clear of weeds in the early stages of their growth. A sandy loam of good quality is best suited to these roots, and deep and thorough preparation of the soil is a requisite to them doing well. The seed is sown in drills, say 20 inches wide, and the plants thinned to stand 6 inches apart. The mixing of radish or turnip seed with those of the parsnip is practiced, in order that the rows may be easily discerned and worked before the carrots are more than through the ground. The seed should not be sown until the ground is somewhat warmed.

Parsnips—Do not receive the attention they deserve, although they are often found a paying crop near market. They are useful for feeding hogs and cows, and are cared for at little cost. Their general cultivation is the same as that of the carrot. They may stand 6 to 8 inches apart in rows 18 or 20 inches wide. Keep the ground well-worked.

Corn for Fodder.—This has become almost indispensable to every farmer who keeps even a few cows, and nothing comes in more handy when the pastures grow short. Sow in drills 2½ feet apart; run the cultivator through the rows two or three times. The stalks should stand about ten or twelve to the foot. About two-and-a-half bushels of seed will suffice for an acre.

Sowing Plaster.—If not already done, a bushel or two should be sown at once on the clover fields. See article elsewhere on this subject.

Phosphates of Lime.

Editors American Farmer:

You know that few farmers understand chemical equivalents. Manufacturers and dealers in publishing analyses of their various fertilizers, state the percentage of phosphates contained so differently as to embarrass computation. Some, "phosphoric acid," others "phosphate of lime," "bone phosphate, soluble, reverted, insoluble, available, &c." Sometimes the given statement is said to be equal to (a greater) percentage of bone phosphate. An explanation, which you can no doubt give in your next number, would, I think, gratify many of your readers; that is, of the difference in percentage or intrinsic value; or, say, the equivalent in "phosphate of lime" and in "bone phosphate" of 10 per cent. of "phosphoric acid."

Excuse me for submitting the suggestion, and believe me, Yours truly.

WM. D. NUTT.

Prince William Co., Va., March 12, 1878.

[We referred these inquiries to Prof. Wilson, the well-known analytical and consulting chemist of this city, whose reply will be found below.—*Eds. A. F.*]

Answer by Professor Wilson.

In answer to your correspondent's queries, I beg to say that *bone phosphate* and phosphate of lime are synonomous commercial terms and are substituted for the correct chemical name tricalcic phosphate, the composition of which is constant, viz: one chemical equivalent (71) of anhydrous phosphoric acid and three equivalents (28 each) of calcium oxide or lime. This is the simplest form that can be given. Recently the equivalents of many of the elements have been doubled,—this, however, does not change the chemical constitution of a body, as multiples of equivalents contain the same as the whole number.

Experience and prolonged scientific investigation have proven, by analytical demonstration, the quantities of each element that is required to form a perfect chemical compound with others, and that the sum of the equivalents of all the elements entering into the constitution of the compound body will be its combining or equivalent weight. We have, then, for *bone phosphate* of lime the following constitution and equivalent:

Phosphorous—equivalent		31
Oxygen	"	8
Oxygen	"	8
Oxygen	"	8
Oxygen	"	8
Oxygen	"	8
Being phosphoric acid—equivalent		71

This, uniting with the equivalents of lime:

Calcium—equivalent	20	equivalent	28
Oxygen "	8		
Calcium "	20	"	29
Oxygen "	8		
Calcium "	20	"	28
Oxygen "	8		

Making 84 as the equivalent or quantity of lime contained in 155 (71+28×3) parts of *bone phosphate of lime* or tri-calcic phosphate. At any time when a percentage of lime or phosphoric acid is given, the quantity of the compound body it will represent is obtained by the simple rule of proportion. Your querist desired to know how much *phosphate of lime* 10 per cent. of phosphoric acid is equal to. The statement is this: If 71 phosphoric acid is equal to 155 *bone phosphate of lime*, then 10 per cent. of phosphoric acid is equal to 21.83 per cent. of the compound sought. The quantity of phosphoric acid required to saturate a given quantity of lime can, in the same way, be obtained by reversing the statement.

The chemical characteristics of that variety of phosphoric acid found in commercial manures is the same, as far as its equivalency is concerned; but for its immediate availability as plant food, depends upon the quantity of lime combined with the phosphoric acid. Experience has demonstrated if two equivalents of lime or twice twenty-eight have been removed from the *bone phosphate* through the agency of some acid having a stronger affinity for the lime than the phosphoric acid has, its availability of immediate action on the plant is obtained. For this purpose sulphuric acid is used. The equivalent of anhydrous sulphuric acid is 40; two equivalents or 80 are required to attain this decomposition. A sulphuric acid properly diluted with water is used; that known in common as 47° Baumé gives the most complete results,—its composition is 40 anhydrous sulphuric acid and 45 water, or equivalent 85. Therefore twice 85 or 170 of such sulphuric acid must be used for every 155 of *bone phosphate*. Two equivalents of lime are only capable of being removed by the sulphuric acid, through the agency of ordinary chemical means. The new compound consists of 71 phosphoric acid, 28 lime and two equivalents of water 18. The phosphoric acid found in bone has tri-basic properties—that is, it requires three equivalents of any base to saturate it. The moment the lime is removed it seizes upon the water present to replace the lime that is removed, and the new combination has the equivalent weight of 71+28+18=117. From some reason never properly explained, 117 does not represent the value of the soluble phosphate of lime, but 155, or the whole *bone phosphate* originally used. It is a commercial usage, and the chemist is *forced* after making the phosphoric acid determination to calculate it to represent 155 of bone phosphate of lime or one equivalent of phosphoric acid and three of lime, and not one of phosphoric acid, one of lime and two of water, which would be its true chemical constitution. This mode of calculation is immaterial, as the quantity of anhydrous phosphoric acid is generally given in the analyses.

The *bone phosphate*, after treatment with sulphuric acid, is freely soluble in cold water, and is the source from which the soluble phosphoric acid is obtained; it retains this property for an indefinite period, unless placed under circumstances of undue chemical action. When by partial loss of water of combination, the production of ammonia through fermentation of nitrogenous matter or a further chemical action on undecomposed phosphoric material, leaves a lime compound not soluble in water,—"reverted" or precipitated phosphoric acid, which has the same agricultural value as the soluble phosphate of lime.

From these data it is hoped that your correspondent and his co-laborers will be able at all times to make calculations of percentages, for either the commercial soluble phosphate of lime, equivalent 155, or the true chemical compound of 117.

Respectfully,

P. B. WILSON.

Laboratory, 30 *Second St., Baltimore.*

Composts and Commercial Fertilizers.

Among the many experiments given in the report of the "Results of the Soil Test of Fertilizers for 1877," of Dr. Janes, the Commissioner of Agriculture of Georgia, (noticed in our last,) we find one made by Judge Jno. Turner, of Hancock Co. of that State, which shows the utility of the plan which we have frequently urged upon our farmers, of the mixture of the commercial fertilizer with the compost of the farm,—the result adding greatly to the value of each thus combined, over that when used separately. The results are very remarkable, viz:

Dissolved bone applied alone at the rate of 200 pounds per acre, yields only 672 pounds per acre; while the same composted with stable manure and cotton seed and 200 pounds of the compost applied per acre, yields 1,008 pounds seed cotton per acre. Thus, by the addition of 150 pounds of stable manure and cotton seed mixed, to 50 pounds of the dissolved bone, the yield is nearly double that from 200 pounds of high grade ammoniated super-phosphates.

Judge Turner is one of the most enterprising farmers of Georgia. The editor of the *Atlanta Enterprise* thus speaks of the efforts of Judge T. in behalf of agricultural improvement in his State:

"Judge Turner is a member of the Hancock Club, which first published the results of experiments with composts, every member of which has been experimenting with composts, contrasted with commercial fertilizers, for the last eight years. Judge Turner has had large experience in the manipulation of the composts, and his experiment may therefore be relied upon as accurate and just.

"We invite the attention of our readers to the figures given, and urge them to utilize all of their home manures in the compost heap. We are so thoroughly convinced from long personal experience and observation, of the value and economy of the compost as recommended by Commissioner Janes, that we may be excused for a little enthusiasm on the subject."

In the notice of the report published in our March No., the intelligent reader will have discovered an error in the last paragraph but one, (a slip of the pen or the types,) in which the word *bushel* was used instead of pounds.

☞ Since the above was received, we have from Dr. Janes his 4th annual report, containing a vast amount of the most valuable matter, which cannot fail to be of great importance to the farmers of Georgia, as well as the other States. We have only space to give the result of one among many experiments, showing, in addition to those of Judge Turner's, the advantage of the combined use of the commercial fertilizers with the composts of the farm:

Experiment of J. R. Respess, Ellaville, Schley Co., on cotton:

"On my five-acre cotton patch, land that would, in its natural state, not have made exceeding 500 pounds seed cotton per acre, I have made the present year (1877) 15,000 pounds of seed cotton, at the cost of one ton of acid phosphate, 150 bushels of cotton seed, 4,500 pounds stable manure and 50 bushels of ashes."

EXPENSE ACCOUNT.

1 ton acid phosphate	$ 30 00	
150 bushels cotton seed	15 00	
2½ tons stable manure	3 37	
50 bushels ashes	7 50	
Labor	100 00	$155 87

CREDITS.

15,000 lbs. seed cotton, at 3 cts. ₩ lb	$450 00	
Cotton seed	36 00	$486 00
Balance		$330 13

or $66.02, net, per acre.

Formula for Tobacco.

Dr. Ledoux, Chemist of the N. C. Department of Agriculture, in answer to requests for a formula without cotton seed or marl as a basis, gives the following, of which he reecommends 400 to 600 pounds to the acre:

Stable Manure, Mould, &c	1,000	pounds.
Sulphate of Potash	300	"
Sulphate of Ammonia	100	"
Sulphate of Magnesia	100	"
Dissolved Bone	400	"
Land Plaster	100	"
	2,000	pounds.

Muriate of Potash is often used instead of sulphate, but produces a poorer quality of smoking tobacco.

Horticulture.

The Maryland Horticultural Society.

The exhibitions of this society increase in attraction and popularity. The March show, held on the evening of the 21st, was a great success in every way. The offerings were all of high grade, competition in most classes was keen, and the arrangement of the plants and other deposits effective and harmonious. The visitors were numerous, indeed at one time almost too numerous for the capacity of the hall, ladies predominating, they seeming to take great interest in the operations and success of these shows.

The display of floral designs was exceptionally fine and tasteful. Mr. Cook showed a basket of flowers, inclosing a dish of strawberries grown under glass.

The meeting of the society was, we think, more largely attended than any preceding it; and the paper read by Captain Snow, on the progress made in floriculture, was listened to with attention and appreciation.

The awarding committee, composed of Messrs. Wm. D. Brackenridge, J. Mowton Saunders and James Galloway, made the following report of their decisions:

To the best table design, $5, Sam'l Feast & Sons; second best do., $3, Miss Molly Strawbridge; best basket of cut flowers, $5, R. W. L. Rasin; second best do., $3, S. Feast & Sons; best hanging basket, $3, Wm. H. Perot; second best do., $1, James Pentland; best collection of 12 greenhouse plants, in bloom, $5, W. W. Spence; second best do., $3, Jas. Pentland; best 6 azaleas, in bloom, $5, W. W. Spence; second best do., $3 A. Brackenridge; best 24 cut pansies, $2, S. Feast & Sons; second best do., $1, W. F. Massey; best 6 pots daisies, $1, A. Hoen; best 12 cut camellias, $3, James Pentland; second best, $2, Capt. Chas. H. Snow; best 6 camellias, plants in bloom, $3, James Pentland; best 6 cinerarias, $3, Ernest Hoen; second best do., $2, James Pentland; best 6 hyacinths, in glasses, $2, W. H. Wehrhane; best 6 hyacinths, in pots, $2, W. H Perot; second best do., $1, W. W. Spence; best 6 cyclamens, $2, James Pentland; best 6 Chinese primroses, $2, Ernest Hoen; best 6 heads lettuce, $2, Ernest Hoen; best 12 stalks rhubarb, $2, Wm. D. Brackenridge; best 3 cinerarias, $2, Geo. L. Hamill (amateur.)

Honorable mention for excellence was given the following: Mrs. Kemp, for well-grown ivy and amaryllis; Miss Martin, Ellicott City, for handsomely flowered begonias; Robert Patterson, for extremely well-grown rose buds; Mrs. Lurman, for bougairvillia spectabalis, a rare vine of great beauty; Capt. C. H. Snow, for dendrobiums and other orchids; Sam'l Feast & Sons, for amaryllis, crinum and lilies; R. J. Halliday, for a general collection of new and standard plants; Chas. Hamilton, for new petunias and handsome amaryllis; A. Brackenridge, for very fine new azaleas and well-grown specimens of greenhouse plants.

Potomac Fruit-Growers.

MARCH MEETING.

Editors American Farmer:

C. W. Denmead read a paper on "Cultivation of Grapes in America for the manufacture of Raisins." After referring to splendid raisins that are now made in California, he says: "If good raisins can be made there, a fine field of industrial enterprise is opened there for a million more of enterprising men. And if raisins can be produced in California they can be from raisin-grapes in other parts of our country."

Two methods are pursued in the manufacture of raisins. First, by cutting the stalk half off and leaving the bunches, suspended on the vine, to cure; or by gathering the grapes when fully ripe, dipping them in lye, and drying in the sun.

It has been conclusively shown, within the compass of a few years, that no better oranges, lemons, nuts, figs, apples, pears, peaches, etc., can be produced on this planet, than are grown in America. The same is destined to be true of raisins. All we want is the application of American industry and capital.

DISCUSSION.—A member who did not arrive until the paper was nearly finished asked if mention had been made of any varieties of grapes that would make raisins, in the Potomac region? The reader said none had been named, but that in some parts of Virginia raisin-grapes could be successfully grown.

Dr. Brainard stated that raisins could be made by drying grapes in such houses as "Nice's fruit preservatory."

Wm. Saunders, in answer to the question whether raisin grapes could be grown here, replied, our grapes are too acid.

Washington, March, 1878. G. F. N.

A Suggestion to Inquirers.

A successful Virginia vineyardist, who has sometimes contributed to the pages of the *American Farmer*, with great acceptance to its readers, makes the following suggestion:

"I would oftener write for the *Farmer* if more grape-growers would take hold of the pen for the same purpose, so that an exchange of ideas would really take place. I will lend a helping hand, but do not like to appear as forcing myself upon the readers of your paper. My little articles have brought me a pretty lively correspondence, some of which, on account of pressing business, I had to neglect; now, if parties that want information would only ask their questions through the *Farmer* instead of writing private letters, some one would be sure to answer them, and we would no doubt have interesting topics to keep up the vineyard department all the year round."

A Winter Peach.

The Petersburg (Va.) *Rural Messenger* thus describes this fruit, which it says originated with Mr. James Hawkins, of Dinwiddie, Va., before the war, and which is called the "Hawkins Winter Peach." That gentleman has had for some years trees in full bearing:

"The fruit does not begin to ripen until the leaves have fallen from the tree in November; is in no way injured by the severe frosts of that season, and hangs on the trees until it assumes a beautiful red cheek. When ripe they may be picked and put away to be carried to market at leisure—say any time in November or early December. The fruit is large, (the first important item in a market peach;) color whitish, with red cheek; flesh whitish, rich, juicy and pleasant. It will keep far into December without rotting. It can be handled pretty much the same as apples."

Floriculture, &c—April, 1878.

By W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore county, Md.

Greenhouse.

Almost every man or woman has some object which they adopt as a sort of pet: something on which they can lavish their affections. Cats, dogs and birds are objects of this kind; but by far the greatest number of people are votaries at the shrine of Flora, and indeed we do not wonder at this choice, seeing that she presents such a vast array of beautiful objects for their contemplation and manipulation. Numerous new varieties of the florists' productions are annually presented to our notice, accompanied by glowing descriptions, which, in some instances, we have found to be overwrought; but it is said "there are tricks in all trades," and we are sorry it has made its appearance within our floricultural domain, which has for the last ten to fifteen years so wonderfully extended its boundary and influence, and in no place that we are aware of has this increase been more rapid than in Baltimore; for at the date above noted, we remember well, there were not more than 14 establishments where plants were grown and sold, now there are over 62; and farther, all these, like the plants they contain, are growing larger, or, at least, are expected to do so.

We have long held the opinion that a little hand-book of Flora was much needed in and around Baltimore, giving, in a brief manner, the way in which different plants should be treated; such a work (not to cost say 50 cts.) might be prepared by some one of our intelligent florists, and as a speculation we think it would pay. What little information we strew along on these pages, from month to month, may or may not be well enough in its way, but what we wish to see in the hands of our floral friends is a work they could turn to at any time, in the way of a "ready reckoner;" such a work should embrace greenhouse management, window gardening, and the treatment of flowers in the open air.

Both Camellias and Azaleas will have, by this time, expended their best blooming qualities, and care should be taken to keep both well supplied with water while they are making their new wood. Camellias, when turned out of doors in May, should be placed where they will be partially shaded from the meridian sun. On the other hand, the Azalea will ripen its wood and set its flower-buds better by being exposed to

the rays of the summer sun; and as many of the kinds are nearly hardy in this latitude, we would advise the moving of them out of doors in the early part of May, in order to gain place for Pelargoniums, Geraniums, Liliums and other plants now being brought forward to decorate the greenhouse during the summer months. We here refer to such Gesneriaceous plants as Gloxineas, Gesnerias, Nœgellias, Plectopomas, Columneas, &c.; in fact, we have never seen a plant belonging to this family but what was worth a place in the best of greenhouses; in truth, some of the hybrids of the Gloxinias and Gesnerias are superb, and to grow and flower them well, they require a warm, humid atmosphere, and a rich, light, sandy soil, in pots or pans that are well drained. The most natural, and at the same time the most beautiful shade under which to grow them, can readily be formed by various kinds of Passifloras, Rhynchospermums, Bugainvillæa spectabilis, or any other strong-growing and fine-flowering creepers. We have always thought that a greenhouse without flowering plants in it during the summer months has only afforded but one-half of the pleasure for which it was intended; and to obviate such a state of things, we would advise our readers to begin and grow a few of the articles above enumerated, and to these add a few graceful Ferns and some hanging baskets, filled with neat, pendant plants; and now is the time to start all these, if you wish to enjoy them in season.

Lawn and Pleasure Grounds.

The planting of deciduous trees and shrubs can yet be performed successfully—we mean small trees, that have been taken up carefully, and not exposed to the sun and drying winds before being planted, as more trees are killed by such exposure than from any other cause. We prefer the fall or winter months for the removal of large trees.

The planting of evergreens should be commenced now, and may, when the weather permits, be continued to the month of May, and we have often been successful in planting in June, or about the time the Pine tribe have completed their annual growth; and we repeat here again, that the roots should not be permitted to become dry.

April is the month in which preparations should be made for summer bedding-out plants, by having the borders and beds dug over, and incorporating with the earth a liberal supply of well-rotted manure. In the latitude of Baltimore, we would not begin to plant out sooner than the first week in May; and before that time arrives, a little map should be made of your garden or flower beds, with a list of kinds, colors and quantity of plants required to fill the whole, reflecting well what harmony of colors you are about to effect by the arrangement you make.

All flower-beds and bushes should have their winter cover entirely removed, permitting no litter of any kind to remain on the grass plat, flower border or walk,—as more than half of the beauty of a garden and greenhouse consists in the neat and cleanly manner in which it is kept.

A Weeping Wellingtonia Gigantea, as the English insist on calling our big California tree, is advertised in their country.

Advice to Amateur Florists.

Mr. Fraser, in his paper read before the Maryland Horticultural Society in February, giving a list of plants suited for amateur gardeners, said he made his selection from such as are suitable for the greenhouse, and that will flourish best in a temperature ranging from 45° to 50° during the night, and 65° to 70° during the day. In connection with the list he gave some suggestions to novices, which we annex:

I would drop a word of caution to amateurs who may either possess a greenhouse or who may contemplate the erection of the same. If you desire to cultivate successfully greenhouse plants, provide accordingly; or if your taste should run in the direction of more tropical subjects, then provide for the necessary amount of heat, and in selecting your plants procure just such as are suited to your house and stick to that. Never attempt to grow green and hot-house plants in the same apartment, because, if you do, be sure all will suffer.

I will also mention some things to be avoided: First of all avoid over-potting; never shift Camellias, Azaleas, Acacias, and such plants until the pots are well filled with roots, and then never into pots more than two sizes larger than those they were in before; drain well and apply water carefully until such time as the young roots have well penetrated the new soil. Here I venture to say that watering, while it appears very simple, requires more judgment than any other operation to be performed in the greenhouse. Never water plants until they are dry, then give plenty. Many make a great mistake in giving a little water and often, so that it happens that the top soil appears wet, while if you turn the plant out of the pot it is dust dry at the bottom. The best time to repot most of the hard-wooded plants is just after blooming, when the young growth begins.

Succulents, so termed on account of their soft, fleshy structure, are mostly found in dry arid situations, often growing out of the fissures of rocks, and in situations destitute of any other kind of vegetation; they require very little water except during the period of growth; many of them are interesting on account of their grotesque appearance, while some have beautiful flowers. Some of them are very appropriate for the decoration of rock work in summer, while beds of succulent plants have been much advised lately; they should be potted in a free open soil and well drained.

New Plants.

The handsome red-flowering Begonia, which has become quite common in the Baltimore trade as Coccinea, but which excited so much admiration from the New York and Philadelphia florists at our exhibition, begins to show with us more plainly than ever its relationship to the old Argyrostygima. It is known that seedlings from it almost invariably show the white-spotted leaves of the Argyrostygma; and now an old plant in our collection, which was cut down in the fall for propagation, is pushing out foliage as

distinctly spotted as Argyrostygma. We catalogued it last spring under the provisional name of "Perfection," as no one seemed to know its true name. On consultation with my friend Mr. Brackenridge, we both agreed that its true name, from its botanical relationship, should be Argyrostygma Rubra—and shall so catalogue it hereafter. The New York and Philadelphia florists all got plants of it here last fall, and it is likely to become as popular as it deserves. We believe Mr. Pentland first introduced it here, having received it from a party who brought it from South America. At any rate we esteem it the "*Queen of Begonias.*"

The new Cyclamen *Persicum giganteum* is one of the new things that is a decided advance on the old strain. We have bloomed it recently and find that the flowers are nearly double the size of those produced by bulbs which were grown from the best strain of seed to be had nine years ago.

We notice very few new plants in the catalogues of the English growers that will be of a popular character. In fact, times are too hard to send out a good thing with a show for profit. Fancy prices are a thing of the past. We hear of many florists going out of the business North; but the trade in Baltimore, if not making money, does not seem to be losing numbers.

Chestnut Hill. W. F. MASSEY.

A Venerable Horticulturist and Long-Lived Plants.

A correspondent in South Carolina writes the *American Farmer:*

I began the cultivation of fruits about 1832, and as at that time I knew of no nursery in this country, I imported from a house in Milan, Italy, quite a large number of fruit trees and shrubs, (among the latter the Jujube,) with roses, &c., of which I had two rose bushes, sundry pear trees and other plants when I left the plantation last spring; among the pears two very large trees of the old autumn Bergamotte of first quality, the Rousselet de Rheims, (or Musk Spice of the North,) and the Bartlett, under the name of Doyenné Musquée. R. C.

Rock-Work.

Among the many devices for the ornamentation of grounds, few have been subject to so much unkind criticism and ridicule as rock-work. It is scarcely possible for any one to attempt anything of the kind without making it too high or too low, too large or too small; in fact anything and everything in the opinion of the critic but what it ought to be. And then there is the ever-at-hand objection, in case of necessity—"unnatural." Now which part of a flower-garden *is* natural? Places in many localities are not numerous where natural rock-work may be had, nor even that which has pretentions to natural appearances, and this fact should not deter owners from having a rockery if desired.

We do not intend to offer minute details of construction, &c., indeed it would be difficult to do so where space of necessity must be limited by the crowding of valuable reading matter as in the *Farmer*,—but merely to give a few general ideas which we always keep practically in view. Put rock-work on sod or on gravel, so that one may walk right up to it. Never under any circumstances have a flower-bed around the base. Keep the base-line as irregular as may be, so that something may be planted in the nooks at the base, such for instance as Juniperus tamarisifolia, J. prostrata, &c. If practicable, make the rocks project so far over on the northern side that shady nooks, little caves, &c., may be formed, wherein will thrive, and seem thankful, many little Alpine gems, delicate ferns and other pets which shrink from the rays of our tropical sun.

For the main decoration we must look to subjects which will thrive and look well both winter and summer, as vinca, lysimachia, akebia, linaria, &c. Regard must be had to the surroundings, of course, as well also to the area to be covered. When placed on gravel the height must be regulated by the width of the walks surrounding. No arbitrary rules can be given for the construction; much must ever depend upon individual taste and judgment. N. F. F.

Growing Violets.

It is with considerable pleasure we note the article "Growing Violets," by Mr. Massey, in current No. of the *Farmer*. Anything whatever that will successfully simplify the winter operations of gardeners, will be hailed with delight by the gardening community—"old fogies" included.

We do not doubt for a moment that violets not covered—except with sash—in winter, will bloom abundantly; but whether they will bloom as early is another question. We have known many instances where gardeners have been compelled through force of circumstances to leave their violet sashes uncovered through the winter; but must admit this is the first time we ever remember to have heard this rough-and-ready method spoken of as being the most successful way of growing them.

There has been, and still is, some tolerably successful violet-growing done in the vicinity of Baltimore; and without particularizing, we may be allowed to mention the name of Mr. Robt. Halliday, Sr., as being a most successful and extensive grower, and I am sure that many of the readers of the *Farmer* would be glad to have that gentleman's views through its pages. N. F. F.

Ornamental Grasses.

These are not planted as much as they deserve to be, as when in bloom they are admired by everybody. I will name only three varieties, which will give every one satisfaction: First, the Pampas Grass, with its handsome bloom on a stem of from five to eight feet; second, the Erianthus ravennæ, which is a stronger and more robust grower, the blooms resembling the Pampas Grass, and are borne on 8 to 10 feet stems; third, variegated Eulalia japonica, with variegated leaves, which grow only to the height of about four feet. Its flowers, when cut before frost and brought into a warm room, expand beautifully.

There are several more varieties, but the above named form a handsome group, and they are all perfectly hardy in a dry situation, if covered about December with twelve inches of leaves and brush. To keep them down, be careful, before covering, to take up all the leaves in your hand, and then, bending them over on one side, a shovelful of earth will keep them down, which prevents the water from getting into the heart. Every year will add to the size and number of blooms, and the expense after planting need not be more than 25 cts. a year.

A circular bed makes a pretty group. Make it about 8 or 10 feet in diameter, and if you want them to grow well dig out the bed to the depth of two or three feet and fill in with rich earth. Plant the Erianthus in the centre, and four plants of Pampas Grass near the edge, at regular distances apart, and alternating between them an Eulalia,—thus making nine plants in all. Cut the blooms before frost, and they will make handsome parlor decorations. J. Cook.

Breisgau Fruit Farm, Baltimore Co.

The Progress of Floriculture.

Capt. Chas. H. Snow, in his paper read before the Maryland Horticultural Society at its meeting in March, after a suitable introduction in which he compared the advancement made in other directions with that in floriculture, said, in the latter progress has been almost miraculous. By the selection of seeds, the hybridization of old varieties, and the researches of explorers, our floral treasures have been extended widely in variety, and improved immensely in brilliancy and beauty of form. We give some extracts:

Garden Plants.

The beautiful Tea, Bourbon and Noisette and Bengal roses were all introduced into Europe about fifty or sixty years ago, and very few of our present garden varieties are over 25 or 30 years old. The beautiful Remontant roses have all been produced within comparatively a few years. Roses have been known as long as we have any authentic record, but I do not think I am saying too much when I say that more improvement has been made in roses in this century than in all preceding time.

The Dahlia was introduced about the beginning of the century, but did not become popular until much later. The original varieties were single, but hybridizing and judicious selection have brought it to its present state of perfection. The Verbena and Petunia were brought from South America about forty years ago, and have been wonderfully improved by cultivation. The beautiful China Aster was called the Queen Margaret when I was a boy, and had only one row of petals, with a yellow centre like a sun flower. Now we have them of nearly every shade of color but yellow, and more double than any rose. The Balsam has also been so improved that it has almost changed its form, and in place of being one of the most fugacious of flowers, the double varieties hold together so well that they are used for bouquets.

The old Fox-glove has been so much improved, both in size and color, that many are nearly as beautiful as Gloxinias, with the advantage of being hardy. This flower is too much neglected. The old Larkspur has been superseded by its much handsomer relative, the Delphinium, whose flowers are far more beautiful, and keep longer in bloom. The beautiful Phlox Decussata, and Phlox Drummondii in their numerous varieties have only become common within the last thirty or forty years. The Chinese Pœonias, both Herbaceous and the Moutan varieties, though known to botanists and travellers for a long time, have only been added within the last century to our gardens.

Most of our beautiful shrubs are of comparatively recent introduction. The Weigelia, Deutzia, Spiræa, Pyrus Japonica, Rhododendron and Ghent Azalea, Forsythia, the double Prunus and Cherries, the double-blooming Peaches, and many others, might be mentioned as evidence of the great progress made in Floriculture.

If we were again thrown back upon the resources of fifty years ago, our gardens would lose the greater part of their most attractive flowers. Besides the plants mentioned, we would look in vain for the stately Gladioluses. In place of the beautiful, large, many-hued Pansies, we would find the little Johnny-jump-up or Heartsease of our childhood. The old Hollyhock has been so improved that it has become quite a florists' flower, with large double blooms of all colors and shades but blue.

If you take a nurseryman's catalogue of the day, and run over the lists of seeds and plants, it is wonderful how few were known fifty years ago, and those that antedate that period have been so changed as in many instances to be hardly recognizable. The changes that have been made by careful hybridizing, have added probably as much to our progress as the discovery of new plants. Fifty years ago our gardens were dependent for their beauty on hardy herbaceous plants and annuals. Bedding plants were not known, and flowers like the Verbena, Petunia, Geranium, Lantanas and an host of others now in use, which flower continuously, had not been discovered. The lovely foliage plants, such as Colens, Achyranthus, Alternanthera, Cannas and others now so successfully used, are also newcomers.

Plants Under Glass.

This gives but a faint idea of the wonderful advancement made in our gardens; but great as it is, and meeting as it does the wants of the mass of the people, the progress of the culture of plants under glass far surpasses it. I have no means of ascertaining, but I should suppose that there are more greenhouses in and around this city alone than there were in the whole of North America at the beginning of the 19th century. In Great Britain, France, Belgium and Germany, a greenhouse now is considered a part of every suburban residence that makes any claim to taste and refinement, and there are many private establishments that far surpass the structures built by the different governments. Collectors are sent out by the large mercantile floral establishments of Europe, who are searching every spot that it is possible to reach. The Messrs. Low, Veitch, Williams and Bull, in Eng-

land, and Van Houtte, Verschaffelt and Linden, in Belgium, have all invested largely in plant collecting. So great has been the increase in the number of tropical plants that have been added to our collections, that the question that arises to any one growing plants under glass is not what can I get, but what must I leave out; and with so many floral beauties to choose from, the question becomes perplexing from the profusion of applicants, and the desire to have a plant of each beautiful variety is so natural that our houses are oftener over than under-stocked with plants.

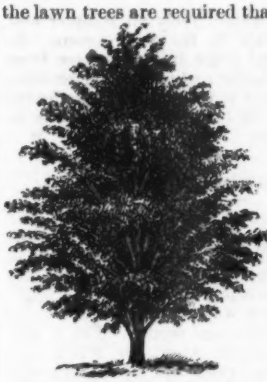
If you take a catalogue and go over a list of plants, you would be surprised what a large proportion are late additions.

Between the year 1800 and 1830, we received from China about six varieties and species of Azaleas. We have now hundreds of varieties, and each year adds to the number. Of Begonias over an hundred species have been discovered in the last fifty years, and within the last ten or fifteen some new species have been sent us from Peru. These have bulbous roots and can be kept over like Dahlias and bedded out. The Bouvardias, that add so much to the appearance of our houses in the early winter months, were unknown twenty-five years ago. Crotons and Dracænas, though known for many years, have only lately been considered worthy of place in choice collections. The beautiful variegated sorts have mostly been brought from the South Sea islands in the last twenty years. Caladiums also came into notice about the same time as the Crotons. Cacti.—Probably over 500 species of these (now) much neglected plants have been added to our store in the last fifty years. Zonale Geraniums—this class of plants, though long known, were only taken in hand by the florists within the last twenty-five or thirty years. The form of the flower (which in its original state was open in the petals) has been much changed, and we have them of all shades of color, from pure white to purplish crimson. They have also been produced double. The leaves of the plants have also been improved, and they have become as beautiful in the foliage as in the bloom.

The Pelargonium, a near ally of the Geranium, has also been advanced wonderfully, both in habit of growth and size and beauty of the flowers. Ferns.—A few years ago these beautiful plants were never seen out of their native dells; now they have taken such hold on popular favor that they are considered among our choicest plants, and many houses have been erected for the culture of ferns alone. Mr. B. S. Williams, of London, advertises for sale nearly 1,000 species and varieties of Ferns and Lycopods.

Two Fine Lawn Trees.

Mr. Vick, in his *Monthly Magazine*, has a chapter on lawns and lawn trees, in which he very truly says a tree may be very beautiful and yet so large as to be entirely out of place on a small lawn, while another may be of the proper size and have no claim on account of good looks to a position on a small place, as we have so many elegant trees from which to make choice. For the lawn trees are required that appear to advantage all through the summer. Two he describes and illustrates.



PURPLE-LEAVED BEECH.

The Purple Beech is of small size and therefore suited to lawn of small size. When its leaves first appear they are of a peculiar brilliant reddish color. As they become older they change to a dark purple, and the tree is always a conspicuous object on the lawn. Later in the season, though not until quite autumn, the peculiar purple color is nearly lost. The form of the tree, as will be seen by the engraving, is good; in fact, it is a pretty tree even when destitute of leaves.

CUT-LEAVED WEEPING BIRCH.

The cut-leaved Weeping Birch is the most beautiful of all the drooping trees, and scarcely excelled in grace by any. It is almost as attractive in winter as in summer, and is always a conspicuous object on the lawn. The tree is of good size, twenty feet or more in height, of rapid growth, and perfectly hardy.—In summer, the slender spray, as fine almost as needles and yards in length, adorned with fairy-like leaves, and moved by the slightest breeze, appear as if floating in the air. In winter, the silvery trunk and branches, draped by graceful drooping sprays, like silver threads glistening in the sunlight, create a scene of almost fairy-like beauty.

Poinsettia Pulcherrima.

This showy, stately plant merits a place in all collections. As a window plant it is easily managed. It will bear cold but not freezing. It will not bear transplanting from an open bed to a pot without serious injury even if carefully done, or bloom the following winter. I have been successful in raising fine plants to bloom from three to eight heads of bracts seven to ten inches long.

When the plant is first received from the florist in spring, put in roomy, well-drained pot of rich light soil, and, after danger of frost is past, sink

into a flower-bed; water freely all summer and pinch out tips twice in the early season. In September repot and place in a safe place from frost—bring in the house; when too cold for other plants to be out, soon it will lose its green leaves to be replaced by its brilliant scarlet bracts to light up a collection. R.

The Vegetable Garden.

April.—No part of the farm deserves and needs a greater share of attention now than the garden, and it is full time that it should be put in order. Every country household should not only have an abundance, but a variety of vegetables, and in every way they are worth more than they cost in labor and money. For a garden of any considerable extent, the better plan is to lay it off in long rows and work them with the plow. On old gardens, where stable manure has been long applied, a dressing of lime is a good application, lightening up the soil and sweetening it.

Keep a watchful eye on the weeds, and have the cultivator and hoe agoing as soon, or before, they show their heads above the surface. Watch your hot-beds, lest an hour's sun too much or an unexpected frost may render idle the care of weeks.

Asparagus beds may still be made; old beds will be benefitted by applications of manure and salt as heretofore recommended.

Bush Beans may be planted now and Limas as soon as the weather is settled. Cauliflowers set out will push ahead if well watered, and occasionally with liquid manure. Seed for late crops may be sown. Keep cabbage well worked, and sow seed for summer and fall cabbages. Celery if not sown should be as soon as convenient—see article on its culture in last month's *Farmer*. Corn may be planted in succession. Cucumbers, squash and melons may be sown in open air, as soon as the ground is well warmed. Lettuce may be sown for succession crops. Onion sets may still be planted. Succession crops of peas should be sown. Potatoes ought to be in; if they are not, plant as soon as possible.

The following suggestions from *Root's Garden Manual* are worth reading:

Don't try to get large crops by close planting; but, on the contrary, give abundance of room, since the soil is so rich that the growth will be large. But if it is desired to get double or triple returns, then in the abundant spaces between the rows, plant second crops just before the first matures. For instance, between the rows of Radishes, Lettuce or Peas, can be planted late Sweet corn, late Cucumbers for pickles, Melons or Beans for late use, or Tomato plants may be set out for later crops. Between hills of early Potatoes late Cabbages may be set—Winningstadt being excellent for this purpose. Between the rows of early Corn, if wide apart, very rich shallow trenches may be made, and Celery set out. The shade of the Corn is an actual benefit till the plants are rooted and favorable weather occurs. Later in the season, as fast as ground is cleared, Turnips can be sown, and often a large crop is raised in this way at little expense. Flat Turnips also frequently produce a crop, if sown between the Corn rows after the last hoeing. In sowing Parsnip seed, Radish seed can be mixed with it and help to trace the rows till the more slow growing Parsnip appears, and may be left till fit for table without injury.

For accessibility and good looks, one or more paths should run the length of the garden, and both profit and pretty appearance will be secured by sowing a border of Tom Thumb Peas, or some other dwarf sort. In early June, two weeks before the Peas need to be pulled, Beets may be sown immediately alongside them to take their place. Beside a good crop they pay in the pretty border their highly-colored leaves make in autumn. In fact, if it were not that a beet is only a beet, it would be regarded as a very pretty foliage plant.

Most of our earliest vegetables, like Radish, Lettuce and Peas, quickly perfect themselves and pass beyond the stage in which they are palatable, and repeated sowings should be made to keep up a succession.

Interest is usually added to the work in the garden, if a pretty full variety is tried, even though but a small packet of each be sown. Of course, fancy prices should not be paid; but the various sorts of established worth can as well be tried as to confine yourself to one, and no little pleasure will be found in watching their growth and noticing the development of the individual qualities of each.

Sweet Potatoes.

Messrs. Editors American Farmer:

You write me that some of your tobacco growers have thought of sweet potatoes, as well as peanuts, as a *substitute* in part for the *tobacco crop* which for the past year or more has not paid well. I very much apprehend that, to use a common expression, they will be "jumping from the frying-pan into the fire" to take this crop for profit *direct;* but it, unlike tobacco, *is a food crop* easily converted into pork, and some of the varieties can be grown with very little expense. We do not consider it exhausting; and where the land is manured for this crop, we find the yield of corn or other grain crops the ensuing year very good.

At this date, (March 26th,) almost every one in this neighborhood has bedded their slips, and some who plant 20 or more acres for market have their plants up. The first week in April, however, will, I presume, do well for your State. The principle of bedding slips is the same, whether in hot-houses, open air, hot beds, or cold frames under sash, only in the latter instance the sun is the cheapest source of heat, easily and most economically regulated.

Most of our truckers who grow cabbage, soon after they take the plants from the sash, bed their slips in the same, finding sufficient heat from the sun to grow the plants. The ordinary method of bedding in the open air is so well known that I need scarcely occupy your space by describing it. However, I will say this: we select a well drained, sheltered spot near the potato land, throw out the soil with a spade 15 inches deep, 4 feet wide, and 3 *feet in length* for every bushel of

slips we propose to bed—say 10 bushels, trench or bed 4x30 feet. At least six inches of pine straw, *wet*, or corn-stalks, or leaves, are placed in the bottom, and packed with the feet. On this about the same of stable manure fresh from the stables, then fill up nearly to the surface with fine woods mould or muck that has been wintered—any rich soil free from *grass seed* we use; bed the slips, laying them close together, but *not* touching each other; cover about two inches with the same soil; the whole bed is then covered a foot deep with pine straw. The bed will require careful *watching*, lest the heat be so great as to *cook* the potatoes, and for ten days or more requires two visits daily.

We have several Jerseymen among us who are using with success the Jersey method by fire heat and *flues under the bed*; it is not expensive, but requires a great deal of attention. Most of our people think they can get the plants up and well hardened by exposure to the open air, in sufficient time with the plan described, even for the early market crop. The yield of sprouts per bushel bedded under sash is much greater than in the ordinary open-air bed, and it is by far the most certain and economical plan in saving labor.

Varieties.—As an early market crop for the Northern cities, the yellow-skinned sorts are *almost* exclusively grown; a very early *not* productive red-skinned kind is grown by a few of us in this section, and very much in favor on the Eastern shore of Virginia.

I am disposed to think the yellow Jersey slips, now much used, are from our old yellow bark known as "Nansemond," grown in Jersey. This kind and "red nose" (whence the name I don't know) are excellent market sorts; yellow skin, short thick roots, are grown almost entirely for market, while the three members of the Yam family, red, white and yellow; the Spanish, and the hardiest, one of the earliest and easiest grown and most productive and best keeper, the Hayman, or (as some of your people may know it) Southern Queen, are grown for family use and local market.

We find a great difference in the behavior and yield of the potato family. The yellow-skinned sorts do not keep in winter so well as the others, and my impression is they require *for profit* heavier manuring. The Spanish is thought to yield much the best from cuttings of the potato planted in hills. The Hayman when manured in the drill like the yams and yellow sorts, yields an abundance of vine and strings,—few eating roots.

Manuring.—Where an abundance of manure can be had I should prefer broadcasting a compost of equal parts of stable manure and woods mould on *old* land. Newly-cleared pine land we find grows fine crops of sweet potatoes with slight manuring in the drills. My father grew for many years from 15 to 20 acres of sweet potatoes as a market crop, and used about 120 bushels per acre of leached ashes broadcast, considered it the best manure.

Soils.—We consider a medium sandy loam the best, since an excess of sand causes the plants to suffer in drouths. It is not uncommon with us to grow a good crop of eating roots and slips on land from which we have harvested and sold our Irish potatoes in June. On land which grew a crop of tobacco the past year, I should expect to obtain a large crop of the Hayman potato without any manure. Some of our most successful growers of this variety consider manuring on even what might be called poor land, a positive injury; while I am not certain of this on "poor land," my success has been best on newly cleared land without manure, and the past year had a positive failure of the Hayman, manured like the other kinds in the drill; where other kinds did well, the Hayman yielded only vines and strings.

Our methods of planting.—In general the ridge system is pursued. After flushing the land with one-horse plows, rows are laid off 3½ feet apart, and in the drills the compost is spread, then ridges are made with the plow over the compost, the tops struck down along the ridges with a weeding hoe, and the sets planted 18 to 20 inches apart on the ridge. Others check the land 3x2½, drop a shovel-full of compost in the centre of each check; make the hills with a plow, and plant the sets over the manure, so they can work the crop both ways with the plow and save labor.

Nansemond Co., Va. G. W. BRIGGS.

[To be continued.]

The Chinese Yam.

This tuber, (the *Dioscorea batata*,) which was introduced to notice with a great flourish of trumpets some twenty years ago, is being again extensively advertised. It is entirely hardy, and the vine is a pretty one of rather rapid growth. It requires several years for the tubers to attain much size, and when they do they are, from their shape, very difficult to dig. The cut, which is one of Mr. Vick's, shows the usual shape of the tuber, of which the big end grows down, and which is palatable but not very sweet. This vine is often called *Cinnamon Vine.*

This tuber is extensively grown and used for food in China and Japan, and when introduced into this country it was declared that it would entirely supersede the potato, but it has never found favor. The difficulty in digging it may be one cause for this.

Gas Tar and the Plum Curculio.

A correspondent of the *Baltimore American* has found an effectual method of preventing the curculio from stinging plums. Tried a number of remedies, but they all failed; at last he concluded to try what virtue there was in gas tar, and his experiment was a grand success. He mixed the gas tar with water and a small portion of ashes, and applied it with a syringe pump, such as is used in washing windows. Use it as soon as the fruit begins to form. The insects commence their ravages very early, and continue during the summer. After I am done sprinkling the trees the fruit is perfectly glazed with the solution, but by the time that the fruit is ripe there is not the least smell or taste of the gas tar.

Home Department.

We renew our invitation to our lady readers to contribute to this department of the *Farmer*. Recipes, household suggestions, &c., are solicited.

Home Comforts.

Our gratitude extends to "Ceres" for the strong light in which her able pen has placed the reciprocal duties of husband and wife; and no doubt her handling of the money question has been read with far greater interest by the majority of the ladies than the same subject now pending among men.

And when some plan has been adopted by which the present difficulty can be surmounted, we will have taken a long stride toward the millenium.

Of course woman should be educated to fit her for the position; and then when she assumes the responsibilities attached to wedded life, she should be recognized as co-partner of the firm, equally interested and equally responsible—then will the beautiful relation be sustained on the only true ground.

And we like her plan of using rugs, instead of carpet, both for economy and further cleanliness, and even for appearance sake, should all tastes agree; provided, of course, the rooms in country houses can be comfortably warmed with so limited an amount of covering for the floor. But if there be a baby in the house, or the children are small enough to enjoy sitting on the floor, we should still advocate carpeting the family sitting room in winter.

We have tried the bare oiled floors for several summers, and add our testimony in their favor. We also give way to the open wood fires during moderate weather where it can be so arranged—allowing their sanitary advantages—though coal stoves may be so thoroughly managed as to give the right temperature, during even the mildest days.

But what shall we say to having our ideal *family* living-room invaded by so obnoxious an intruder as this? Can it be the voice of a *woman* and of a *wife* which humbly protestes against the banishment of pipes and tobacco from the sitting-room mantel! Why should they be suggestive of comfort and enjoyment? In what should "men's liberty to enjoy himself in the midst of his family" consist? Surely not in the indulgence of something in which his wife, his mother, his sister, or his daughter, *could* not, and his sons *should* not join him? Is there not greater deference due to the tastes and feelings of those with whom we are in constant contact, than of those with whom we meet occasionally? And where is the gentleman in all the land who would light his cigar in the presence of his lady love, or go driving with her smoking his meerschaum, or sit cozily talking with her, dividing his attentions between her and the spittoon, or open fire? And if improper and inelegant in the conduct of the lover, should it not be esteemed doubly so in the father, brother or husband, as the case may be?

But we forbear! Custom sanctions all this we know full well, but is it not due to perverted taste? We justly appreciate the unselfish motive which prompted "Ceres" to make the reservation; and never having experienced living in the house with a man addicted to the objectionable habit, we should have no point to gain by further agitation of the subject. Leaving the question therefore to be adjusted by placing the standard of human excellence and perfection upon a still higher level, and exerting our every faculty (feeble tho' our efforts prove) to aid mankind in reaching it, we refrain, at present, from occupying more valuable space in the *Farmer*. T.

Chapters on Health.

The natural and inalienable right of every child, especially every one in this broad land of ours, is sound physical health, without which the highest enjoyment of life is impossible. There is a great deal in inherited constitution, there is, also, very much in the treatment and culture a child receives in infancy, childhood and youth. Childred have a right also to sound, good teeth, the lack of which is largely owing to improper and insufficient nourishment. It is one of the encouraging signs of the times that people are interested in studying the laws of health. Overdosing with medicine is one great cause of the degeneracy of American children. A lady friend once told me that after the death of her infant she was appalled at the sight of the number of bottles of medicine, more or less of each having been taken by the little one. "When I looked at them all, I thought that medicine *alone* would have killed my baby." One of my little boys has always had a tendency to attacks of croup, and as the disease was alarming, and as I had read in a large work written by one of England's most eminent physicians, that the sovereign remedy was ipecacuanha or ipecac, I always gave it and supposed the nauseating effects necessary for the child's relief. But a simple recommendation of a tittle alum scraped from a small lump and put in water led me to change my old regime for one quite as efficient so far, and infinitely more agreeable. I do not think my child has ever tasted medicine save these two prescriptions and another, and is now more than seven. He was never strong in his babyhood, but I relied on food, fresh air and plenty of sleep to lay the foundation of a constitution that may be severely tried ere his journey is done.

Rich meats, highly-seasoned food and pastry are unfit for children, and lay the seeds of dyspepsia and other disorders. Consumption is largely induced by a diet confined to salt meat, and I knew a conscientious minister who was so deeply impressed with the dire effects of this practice among the farming part of his congregation, that he spoke of it from the pulpit, as a violation of the Divine command "Thou shalt not kill." Plenty of fresh vegetable and variety are essential.

JANE B. MOORE BRISTOR.

Marriage.

Never marry a man who has only his love for you to recommend him. It is very fascinating, but it does not make the man. If he is not otherwise what he should be you will never be happy. The most perfect man, who did not love you, should never be your husband. But, though marriage without love is terrible, love only will not do. If the man is dishonorable to other men, or mean, or given to any vice, the time will come when you will either loathe him or sink to his level. It is hard to remember, amidst kisses and praises, that there is anything else in the world to be done or thought of but love-making; but the days of life are many, and the husband must be a guide to be trusted, a companion, a friend as well as a lover. Many a girl has married a man whom she knew to be anything but good, "because he loved her so." And the flame has died out on the hearthstone of home before long, and beside it she has been sitting with one that she could never hope would lead her heavenward, or who, if she followed him, as a wife should, would guide her steps to perdition. Marriage is a solemn thing—a choice for life; be careful in the choosing.—*Belgravia.*

Boys and their Mothers.

Some one has written beautifully to the boys in the following manner. Here is a whole sermon in a few sentences:—"Of all the love affairs in the world, none can surpass the true love of the big boy for his mother. It is pure love and noble, honorable in the highest degree to both. I do not mean merely a dutiful affection. I mean a love which makes a boy gallant and courteous to his mother, saying to everybody plainly that he is fairly in love with her. Next to the love of a husband, nothing so crowns a woman's life with honor as this second love, this devotion of a son to her. And I never yet knew a boy 'turn out' bad who began by falling in love with his mother. Any man may fall in love with a fresh-faced girl, and the man who is gallant with the girl may cruelly neglect the worn and weary wife. But the boy who is a lover of his mother in her middle age, is a true knight who will love his wife as much in the sere-leaved autumn as he did in the daisied spring-time."

Reproving Children.

Not with a reproof for any of that day's sins of omission or commission. Take any other time but bed-time for that. If you ever heard a little creature sighing and sobbing in its sleep, you could never do this. Seal their closing eyelids with a kiss and a blessing; the time will come all too soon when they will lay their heads upon their pillows lacking both. Let them at least have this sweet memory of their childhood, of which no future sorrow or trouble can rob them. Give them their rosy youth. Nor need this involve wild license. The judicious parent will not so mistake my meaning. If you have ever met the man or women whose eyes have suddenly filled when a little child has crept trustingly to its mother's breast, you may have seen one in whose childhood's home dignity and severity stood where love and pity should have been. Two much indulgence has ruined thousands of children; two much love not one.

A Hint to Housekeepers.

The beginning of last month (March) was the right time for every housekeeper to begin her raids upon the bedsteads, and to everyone who has thus far neglected the disagreeable but important duty, let me say do it at *once.* A basket of tepid water, a soft cloth and *personal attention* given regularly, commencing the first Monday in March, and keeping up the practice every two weeks during the summer and fall; also airing well the beds and bedding will prevent any trouble with "bed bugs," which are too disgusting even to be spoken of, much less written about. I only wish to jog the memory and save trouble to those who have not had the tradition handed down to them, or, by practice, discovered the fact themselves. T.

Domestic Recipes.

To Cleanse the Hair.—Ammonia should not be used on the hair; it injures the gloss and softness, causing the hair to become harsh and dry. The best way to cleanse the hair and keep the scalp healthy is to beat up a fresh egg and rub it well into the hair, or, if more convenient, rub it into the hair without beating. Rub the egg in until a lather is formed; occasionally wet the hands in warm water, softened with borax; by the time a lather is formed the scalp is clean; then rinse the egg all out in a basin of warm water, containing a tablespoonful of powdered borax; after that rinse in one clear, warm water.

Irish Stew.—1. Cut up into cutlets about three pounds of the best end of a neck of mutton, saw off the chine bone and trim off the fat; season the cutlets well with pepper and salt and put them with the bones into a stewpan, just covering them with cold water; stew gently for half an hour, remove from the fire, skim the fat from the gravy and then return it with the chops into the stewpan; add about eight potatoes cut in halves, four onions sliced, a couple of turnips and one and a half pints of either stock or water; cover the stewpan and simmer gently for one and a half to two hours. Serve with the potatoes in the centre of the dish, the cutlets arranged all round and with the onions and gravy poured over. 2. For a more economical stew, take the scrag of mutton, together with any trimmings, bones, &c., from the best end. To one pound of meat put two pounds of old potatoes, peeled and cut in pieces, with two onions sliced, pepper and salt, cover with cold water or weak stock and simmer gently for a couple of hours; when half done, add a few potatoes, and when the ingredients are well amalgamated, skim off superfluous fat and serve very hot.

Waffles.—One egg, one cup of milk, one and a half cups of flour, one tablespoonful of melted butter, one tablespoonful of sea foam and a pinch of salt. Sift the sea foam and salt through the flour. Beat the egg very light, add the milk and stir in the flour. If you measure both flour and milk with the same cup this batter will be just right. Have the waffle iron very hot on both sides and very well greased. Almost everything depends upon the baking. They must be eaten as soon as baked.

Maryland Granges.

MONTGOMERY COUNTY GRANGE, No. 7, met at Barnesville Grange Hall, on February 28, and the annual election of officers resulted as follows, viz: John McDonald, Master; B. F. White, Overseer; J. B. Averitt, Lecturer; J. C. Holland, Steward; Charles F. Purdum, Assistant Steward; William Reading, Chaplain; J. T. DeSellum, Treasurer; F. A. Tschiffely, Secretary; R. H. Lansdale, Gate Keeper; Sister M. J. McDonald, Ceres; Sister M. C. Suter, Pomona; Sister Sally Benton, Flora; Sister Eva Chiswell, Lady Assistant Steward.

A resolution was received from Brighton Grange, and unanimously adopted, asking the county commissioners to lay out the county roads in sections not exceeding two (2) miles in length, and, in appointing the supervisors, that they select such persons as are land-owners, whose land binds on the section of road to which they may be appointed,—thus making them immediately and personally interested in the roads, and having at all times close oversight thereof; or if it should better suit the views of the commissioners, to appoint a general supervisor for a long line of road; then the said general supervisor shall appoint sub-supervisors in accordance with the first resolution.

A committee was appointed looking to the introduction of improved stock into this county.

The several subordinate Granges were requested to get all the information in their power in reference to improved agricultural machinery, and report to the next meeting of the County Grange.

The next meeting of the Grange will be held at Gaithersburg, April 25th, at 10 A. M.

BALTIMORE COUNTY GRANGE, No. 13, held its regular quarterly meeting in Baltimore on March 5th, W. Overseer Jenifer in the chair.

The grange having determined, in view of the damaging and harassing interference with the sale of hay at the several scales in the city of Baltimore, to appoint an agent to represent its members and the general farming community, the Standing Committee was instructed to prepare an advertisement and handbills, asking the co-operation of both sellers and buyers of hay, straw, husks and ear-corn in giving business to this agent, so that the consumer may be brought into closer communication with the grower, and avoid the services and heavy imposts of the irresponsible brokers, who do neither party any service. (This advertisement will be found elsewhere.)

A committee was appointed of one member from each subordinate grange, to take into consideration the propriety of holding in the early autumn a public meeting of the granges of Baltimore Co., and in connection with it an agricultural fair and cattle show for the county, and to make recommendations as to time and place of holding the same, with such other suggestions as may be proper, if the plan is deemed advisable. The great success of the similar meeting of last year and the almost impromptu show, give reason to believe that a very creditable display might be made.

The next regular meeting of the grange will be at the Hall of Garrison Forest Grange, at Pikesville, on Tuesday, June 4th, at 10½ A. M.

FREDERICK COUNTY GRANGE, No. 5, will hold its regular meeting in Frederick City on April 9th, when the officers chosen will be installed, the 5th degree conferred, and the unwritten work exemplified. W. Master Moore, of the State Grange, W. State Agent Devries, and other visiting brothers, are expected to be present.

HOMELAND, No. 170, Baltimore Co., Md., held a public meeting March 6th, for the installation of its officers, a list of whom we give: Master, Augustus W. Sweeny; Overseer, James Pentland; Lecturer, William D. Brackenridge; Chaplain, Alexander Brodie; Steward, Peter Ruhl; Asst. Steward, Isaac Moss; Treasurer, George R. Buckman; Secretary, Archibald Brackenridge; Gate Keeper, Charles Hamilton; Ceres, Mrs. Lewis Dawson; Pomona, Mrs. James Pentland; Flora, Miss Belle Brackenridge; Lady Asst. Steward, Miss M. E. Hamilton.

The installation ceremony was conducted by Wm. B. Sands, Secretary, and Col. Daniel Jenifer, Overseer, of the Baltimore Co. Grange, after which a number of the officers elect made short and appropriate addresses.

A number of visitors were present, and a delegation from Centennial Grange furnished the music on the occasion, and Miss Stansbury, the organist, was presented with a handsome bouquet by Homeland Grange, as a mark of its appreciation of her kindness in so officiating. After the ceremonies ended a bountiful supper was served by the grange to its visitors.

BRIGHTON GRANGE, No. 64, Montgomery Co., met Friday, February 15th, at the Grange Hall, at Brighton. The Committee on Laws presented its Report, embodying fourteen questions on which legislation was required by the agricultural interest; the committee had by bills, petitions and memorials brought most of these before the Legislature, one of the members having gone to Annapolis to attend to the business, and reported favorably upon most of the features he had presented to the Assembly. The committee was continued to have on hand for further work and as a convenient receptacle for the problems bearing on legislation that must arise in the varied work of grange discussions. Several communications were read from sister granges, all taking favorable action in regard to the circular of Brighton Grange on "Partisan Politics and Political Economy." The W. Treasurer read before the grange an essay, read before the Tramp Convention held in Baltimore, Dec. 20, and the W. Master read some resolutions reciting the action of Brighton Grange on the same question, "the Finances of the County."

The Committee on Subjects for Discussion reported as the question for next meeting: "Will it pay to use fertilizers on corn?"

The W. L. advocated the subscription by the grange to some agricultural paper for use of and circulation among the members; also on the necessity of purchasing all the seed required by the grange of one house, and the advisability of being prepared at next meeting to send in orders.

D. L.

FAIRLEE GRANGE, No. 8, KENT CO.—The regular monthly meeting of this grange on the 21st ult. was a delightful occasion to all who were fortunate enough to participate. This one of the "live" granges of Maryland, and one which

DISCREPANCY IN PRINTING

is awake to all the social and educational advantages which the grange offers; its membership composed of men and women of intelligence, cultivation and public spirit.

This meeting was a large one, it being understood in advance that W. State Agent Devries would be present. He addressed the meeting, giving his views of the business demands and operations of the order.

One of the admirable institutions of this grange is a manuscript journal or paper to which contributions are made by its members, and which are read during the session. Sister Hurlock was the reader on this occasion, and the various articles, all eminently well written, were rendered in a most effective and pleasing manner. An ample and handsome feast concluded the session.

SUMMIT GRANGE, No. 164, BALTIMORE CO., elected the following named officers for the current year, and they were installed on February 25th, by W. State Agent Devries, who made a very acceptable address to the large audience assembled on the occasion: Master, George M. Fultz; Overseer, Samuel N. Bailey; Lecturer, Mordecai Alban; Steward, John Fultz; Assistant Steward, John E. Bull; Chaplain, Vincent McCoullough; Treasurer, Wm. McCoullough; Secretary, Abraham Oelsgrath; Gate-Keeper, Jacob Sigman; Ceres, Mrs. G. M. Fultz; Pomona, Mrs. Wm. McCoullough; Flora, Mrs. Samuel Boublitz; Assistant Stewardess, Miss Sarino McCoullough.

B. P. WARE, the newly-elected Master of the Massachusetts State Grange, starts his administration with an excellent admonitory suggestion. In a circular letter addressed to the granges of his State, he urges the importance of public lectures for the granges, and suggests that every means be employed to enlighten the farmers in regard to the work of the order, and to render them more active in support of the interests of their class. There are fine fields for missionary work in behalf of the order in many States that might be mentioned. Let them be properly cultivated by either visiting or home lecturers in open grange meetings and other public assemblies, and the harvest in memberships and the favorable judgment of the community will ere long be sure.

THE active working granges in Tennessee now number 566, with a membership ranging between 12,000 and 15,000. Four years ago the Granges numbered 1,107, with a membership of about 80,000. Of the entire number of granges organized, 100 never held a second meeting. Prominent Grangers say that the order is now in much better working order than heretofore, with the prospect of more effectively carrying out its original object—the cultivation of social intercourse and the education of the farming class.

The amendment to the constitution reducing the iniation fee to three dollars for men and one dollar for women is now operative. The proposed amendment changing the representation in the national grange was defeated.

☞MR. WM. WIRT CLARKE, whose advertisement will be found on another page, is agent for the sale of what we have no doubt will be found a most valuable mineral found in one of the hills of North Wales, in a basin of volcanic origin, which is almost pure Silica. It is manufactured into paint by the Silicate Paint Co. of Liverpool. The use of this mineral will effectively preserve walls from dampness; it becomes very hard and durable; is not blistered or affected by heat; it is non-poisonous, and can be used for the inside of any vessel or cistern without any injurious effect. Builders and those having damp walls will find it to their interest to examine this paint.

Mr. Clarke also offers Agricultural Plaster and Cement, and we commend his advertisements to the public attention.

☞Attention is called to the advertisement of Berkshire pigs by Mr. T. T. Gorsuch, who was one of the first breeders in this section of this race, and who by a long familiarity with it knows all about a good pig. His pledge to ship none others may be relied on.

It will be noticed that Messrs. Dorsey, Moore & Co. change their advertisement this month. They are the agents for a number of very desirable implements, and, as will be seen, the only manufacturers of Montgomery's Improved Rockaway and Champion Wheat Fans.

☞Messrs. Linton & Lamott besides their Geiser Separator, offer the Peerless Portable and Domestic Steam Engines.

Messrs. Thomas Norris & Son, whose announcement includes a number of specialties of deserved repute, have a thorough knowledge of the wants of farmers and a long experience in supplying them, which entitles them to a fair share of patronage.

By an oversight the address of Mr. E. Wagoner, of Westminster, Md., was omitted in his advertisement of last month. It will be noticed that he is offering horse-powers at very low prices, and this notice gives us the opportunity of saying that the Lion Feed Masticator has been spoken of to us in the highest praise by farmers who have had them long in constant use.

☞A number of valuable papers were received too late for insertion in this issue. Our friends will confer a favor by forwarding their contributions as early in the month as convenient.

☞A large number of books, pamphlets, &c., received, but notices crowded out of this issue.

The American Farmer.

PUBLISHED ON THE FIRST OF EVERY MONTH

By SAML. SANDS & SON,

At 128 W. Baltimore Street, (sign of the Golden Plow,) Baltimore, Md.

Wm. B Sands, Proprietor.

Saml. Sands, Wm. B. Sands, } Editors and Publishers.

SUBSCRIPTION, $1.50 a year, in advance. To Clubs of five or more, $1.00 each. For $10, eleven copies will be sent.

ADVERTISING RATES.

	1 *Mo.*	3 *Mo.*	6 *Mo.*	1 *Year.*
One Square, 10 lines.....	$ 1.50	$ 4.00	$ 7.00	$ 12.00
Quarter Page.....	6.00	15.00	22.50	35.00
Half Page.....	12.00	25.00	40.00	70.00
One Page.....	20.00	45.00	75.00	120.00

Cover Pages subject to special contract.

Transient Advertisements payable in advance—all others quarterly.

Advertisements should reach us by the 27th of the month, to secure insertion in the succeeding issue.

APRIL 1, 1878.

Agriculture in the Legislature.

So far as can be ascertained in the uncertainty which attends the closing of the session, no measures whatever have been passed by the Legislature in the interests of agriculture. The present system of tobacco inspections remains in full force. The bills introduced for permitting shipments of tobacco without inspection, upon its paying the customary fees as if inspected, which was passed by a handsome majority in the House, were defeated in the Senate. The Committee on Inspections of the same body—consisting of Messrs. Lee, Bannon, McLane, Combs and Hill—representing the city of Baltimore and the tobacco-growing counties, all eager for the abolition of forced inspections, reported adversely to free inspections. The bill for the abolishing the office of supervisor of inspectors was passed, to go into effect March 1, 1880.

The Agricultural College failed to get the extra appropriations for which it modestly asked, and narrowly escaped losing the one granted by its charter. Pending the consideration of the appropriations for 1878, on motion of Hon. Mr. Blair, of Montgomery, that for the college was struck out by a large majority, and an attempt to reconsider negatived by a vote of 34 to 13; and when the appropriation bill for 1879 was up, the same gentleman moved to change the appropriation from $6,000 to $1, and to withdraw the remainder of its endowment under the act of 1856. An amendment to make the appropriation $3,000 was rejected, and Mr. Blair's motion was passed by *a rising vote.*

The appropriations were both restored in the Senate, however, and when the bills were returned to the House, certain influences having been brought to bear, the Committee on Agriculture, from which scarcely a word had been heard during the session, made a favorable report, the usual plea of the college having paid off its debt was offered, and the previous action was reversed. Annapolis is the frequent scene of sudden conversions! This committee at the same time reported unfavorably on the Agricultural Experiment Station, opposing the grant of the appropriation asked therefor on the ground that "the chief object to be effected by such an establishment can be as well accomplished by instructions within the college itself"—which shows the committee knew as little about the college as they understood the object and scope of the proposed station. It is doubtful whether any report would have been made on the station—quietly entombed as it was in the interest of the college—had not the exigency of the emphatic striking out of the appropriations to the latter required a favorable report on it.

The bill for the erection of a grain elevator and the construction of a pier for the accommodation of fruits and vegetables was killed in the House by a very decisive vote, as was also the bill for taxing mortgages,—the unceasing efforts of General Hardcastle in their favor being unavailing.

A bill was passed forbidding the sale of oleomargarine without its character being plainly marked upon the packages.

We recall nothing else of special interest to agriculturists considered by the Legislature.

Agency for the Purchase and Sale of Improved Stock.

We have had frequent applications from persons wishing to buy improved stock, but the demands upon our time in the other departments of our business have prevented that attention being paid to them that their importance demanded. As inquiry in this direction is increasing, and desirous of assisting in the dissemination of thoroughbred stock, we have made arrangements by which all kinds can be purchased and carefully shipped. In this vicinity certain breeds can be found in high perfection, and great facility exists for their shipment in any direction, and our arrangements are such that other kinds can be procured from abroad of reliable and well-known breeders.

This business will be in the charge of Mr. *George O. Brown*, whom we can commend to those wishing to make such purchases. Mr. Brown is widely known as a successful breeder himself of poultry, the energetic Secretary of the Maryland Poultry Association, and editor of the *Farmer's* Poultry Department.

Mr. Brown will be found at the office of *The American Farmer*, and invites correspondence from those wishing either to sell or buy. We should be glad if breeders or farmers having any kinds of stock for sale will give us lists of the same, with prices, in order that inquiries received may be answered with as little delay as practicable.

☞Mr. Brown is duly authorized to receive advertisements and subscriptions to the *American Farmer*.

The Agricultural College and the Experiment Station.

It will be seen that the college, after barely missing being wiped out of existence, has, by the grace of the Legislature, a renewed lease upon life for at least two years longer. Any further discussion of its operations will therefore be supererogation, and it only remains now to be seen whether it will resort to new vagaries and experiments, or whether its managers, taking lesson from its narrow escape, and the judgment passed upon it by the popular branch of the Legislature, will endeavor to make it conform more nearly to what such an institution should be, and lead it into channels of greater usefulness than it has occupied of late.

If the college has done nothing heretofore for the farmers of the State, it has now done one thing which deserves anything but their gratitude—it has largely contributed to the failure of the Experiment Station, the erection of which would have effected greater savings and distributed them more generally and widely than any other measure lately proposed for their benefit. Those who "managed" this worked quietly, but their success may not be so gratifying in the end as they hoped.

Fertilizers.

Messrs. Wm. Davison & Co. offer all kinds of Fertilizer Chemicals, and announce that they are now prepared to make the Stockbridge Fertilizers, notice of which has appeared from time to time in these pages.

Messrs. Robt. Turner & Son offer Peruvian Guano at Agents' rates, which is claimed to analyze much higher than that introduced of late. We have seen the article, which resembles very much in appearance, at least, the old Chincha Island. The percentage of ammonia is not so great as that kind, but the price is lower than much now offered. Persons who intend purchasing should examine it. The same firm manufacture Poudrette and sell Bone Dust.

In consequence of the dissolution of the well-known firm of J. J. Turner & Co., each of the partners have now separate establishments. John Q. A. Holloway, one of the late firm, offers "Excelsior" and Ammoniated Superphosphate at 107 McElderry's wharf; while J. J. Turner, with a new firm under the same style, will continue their sale at the old stand, 42 Pratt St.

Joshua Horner, Jr., & Co. have removed to the corner of Bowly's wharf and Wood street, and advertise their usual products—Bone Dust, Superphosphate, Tobacco Sustain, &c.

The Maryland Fertilizing and Manufacturing Co. offer a full line of their well-known brands for Tobacco, Corn and other spring crops.

The Chemical Co. of Canton is prepared to fill the largest orders in the Fertilizer line, manufacturing only by formulas given by their patrons.

John M. Rhodes & Co., at 82 South St., continue the sale of their "Standard Manures."

Thos. C. Price & Co. present for public patronage a new brand, the Victor Fertilizer.

L. J. Warren, 18 E. Falls avenue, offers an article of Prepared Agricultural Lime, the use of which has largely extended since its first introduction. It is claimed to be a sure preventive of smut. The price is $15 a ton, delivered.

R. J. Baker & Co. advertise Ground Bone, Stag Superphosphate, Dissolved Rawbone and Pure Chemicals for making Fertilizers at home.

Edwd. L. Coulson offers Pure Ground Bone and Bone Meal ground at his own mill.

The Popplein Silicated Phosphate Co. offers the Silicated Superphosphate, soliciting a trial with any other Fertilizer sold.

Slingluff & Co. have made extensive additions to their works, and are prepared to execute orders with promptness. Besides their "Native" and "No. 1" Superphosphates, they offer Dissolved Bone, Bone Ash, S. C. Phosphate, and propose to manufacture Fertilizers on formulas furnished by their customers.

R. W. L. Rasin & Co. advertise their Soluble Sea Island and Empire Guanos for general use on spring crops, Ammoniated Alkaline Phosphate, prepared especially for Tobacco, &c. An article from the Baltimore *American* gives an idea of the completeness and extent of their manufacturing facilities, and annexed is a very complimentory notice of the house from the *Virginia Patron*.

The American Farmer.

"Without doubt the first periodical of its kind published in this country, and enjoys the highest rank among its competitors."—*Frederick (Md.) Times.*

"This long-established journal is an old friend of the farmer. We learn it is extensively taken in the northern part of the State. The February No. is full of interesting and valuable matter, as, indeed, it always is."—*Charlotte (Va.) Gazette.*

"This excellent monthly has to be seen to be fully appreciated. It was established in 1819, and now, resting upon its well earned reputation, it stands the equal of any of the agricultural journals in the land."—*Darlington (S. C.) Southerner.*

Received.

From JOHN SAUL, Washington, D. C., CATALOGUE OF PLANTS for 1878, with a beautiful plate of the new Pelargonium, "Mrs. John Saul," which originated in his establishment.

From KELLY, PIET & Co.—*History of Maryland*, by William Hand Browne and J. Thomas Scharf. This is a compact and well-arranged work intended for the use of schools and academies, and is supplemented by a chronological table, a list of the Governors of Maryland, and the Declaration of Rights and Constitution of the State. It is neatly gotten up and abundantly illustrated.

Planting Potatoes.

The question has been freely mooted of late as to the best part of the Irish potato to plant. The following experiment will help to elucidate the matter, as made by a New Hampshire farmer, and given by a neighbor to the press:

A few years ago a farmer friend made an experiment with a view to settling a disputed point relative to the best portion of a potato to plant, in reference to its size and the productiveness of its yield. He planted four rows of equal length, side by side, with two varieties of potatoes. In one row he planted only the "seed ends," so-called, or those containing the most eyes, which included about a third of the bulk of the tubers, and in the next row the "stem ends," the parts of the tubers which are connected with the roots. The two varieties were "pink-eyes" and "peach blows." The yield of the four rows was as follows:

	Pounds.
Pink-eyes, stem ends	217
" seed ends	170
Peach Blows, stem ends	225
" seed ends	189

The potatoes raised from the stem ends were much larger than those from the others, and appeared to be from a week to ten days earlier.

EXTRAORDINARY WINTER.—A Norfolk Co., Va., correspondent, under date February 13: Mosquitoes still lingering in the woods and the frogs are greeting us nightly with their free concerts. Are they mistaken in the programme?

Forestry Notes.

At the meeting of the American Forestry Association, held in Washington, in February, on a discussion on various trees, the general expression of opinion of the meeting was that foreign trees were a failure. The so-called Scotch larch was given as a notable example. It is a native of the Tyrol and can be grown successfully only on the more elevated or mountainous districts of a country. Of American trees the black walnut and yellow cotton-wood have proven exceptionably profitable, rapid growers, and valuable both for timber and lumber. The best seeds of larch come from the Tyrol, and even the seeds of this tree grown in Scotland are apt to be imperfect. Mr. Saul spoke of the difficulty in getting good seed of many varieties of plants, notably those of calceolaria and geraniums. In England these plants seed plentifully. The sugar maple, which seeds so abundantly in the North, does not perfect its seed about Washington. *Abies Kœmpferi*, he thought, would yet prove one of the best trees for that latitude and South. Dr. Warder said the seeds of Douglas spruce, brought from California, did not prove hardy: those from the Rocky Mountains were more so.

Ex-Governor Morton, of Nebraska, said that thousands of dollars' worth of larch had been planted in Nebraska, and had proved a total failure. They had found that the nut-bearing trees must be planted where they are to stand, with other varieties as nurse trees.

Mr. Elliot, of Missouri, who it will be remembered made extensive plantings of trees in Kansas for the Kansas Pacific railway, testified that larch had failed in Kansas. He was sorry to hear of the failure in Nebraska. He hoped something from the deciduous cypress as a substitute. He had a good word to say for that odorous (?) tree, the ailanthus, but said the grasshoppers worked badly on it.

Dr. Warder, in this connection, replied that it was only the staminate or male tree that was offensive. The female, while exhaling a strong odor from the blossoms, was not offensive. The sex of the tree may be easily told even in the seed bed. The staminate trees are long jointed, while the pistillate ones are shorter jointed, and red at the termination of the leaf stalk with the stem.

Catalpa was well spoken of for the latitude south of 41 degrees. Pieces of the wood were exhibited that were cut from a post put in the ground seventy-five years ago. They were as sound as when the post was planted, and very susceptible to a high polish.

LIQUID GLUE—Is made by dissolving glue in nitric ether. The ether will dissolve only a certain amount of glue, consequently the solution cannot be made too thick. The glue thus made is about the consistency of molasses, and has double the tenacity of that made with hot water. If a few bits of india-rubber, cut into scraps the size of buck-shot, be added, and the solution be allowed to stand a few days, being stirred frequently, it will be all the better, and will resist the dampness twice as well as glue made with water.

CONTENTS OF APRIL No.

The Maintenance and Restoration of Fertility in Lands, by R. E. Duvall 117
The Grasses 119
The Culture of Millet, by W. J. Schofield.... 120
Planting and Topping Tobacco, by J. M. Baker 121
Comments on Times and Prospects, by Philo. 121
Our French Letter, by F. C 122
Early Cutting of Grass and Clover, by C. B. W 123
Sheep as Improvers of the Soil, by B 123
The Enterprise Club, by N. E. D 123
Haymarket (Va.) Agricultural Club, by W. L. Heuser 124
Farming does pay 125
On the Use of Plaster, by Col. Robt. Beverly. 125
Sheep Raising in Tidewater Virginia, by Genl. Meem 126
A Neat and Convenient Farmhouse 126
Green Manure Crops 126
All Cotton Means Starvation, by Hon. B. H. Hill 127
Forage Crops for Dairy Farming, by A. W. Cheever 128
Is the Guenon Theory a True Guide in Selecting Cows for the Dairy, by J. L. Massey... 129
Ayrshires or Short-Horns for Cheese, Jerseys for Butter 130
Cooking Food for Dairy Cows, by N..... 130
Cleveland Bay Stallion "Vanguard," (Plate) 131-132
Feeding and Management of Calves 131
Breeders of Norman-Percheron Horses..... 131
Hereford Cattle 132
Good Sale of Jerseys and Guernseys 132
Heavy Poland-Chinas 132
Exportation of Poland-China Swine 132
Sheep Raising in Tennessee 132
Pigeons 133
Setting Eggs—Transportation, &c 134
Work for the Month—The Corn Crop, Oats, Mangel Wurzels and Sugar Beets, Potatoes, Carrots, Parsnips, Corn for Fodder, Sowing Plaster 134-135
Phosphates of Lime, by W. D. Nutt and Prof. P. B. Wilson 135
Composts and Commercial Fertilizers. 136
Formula for Tobacco 137
Maryland Horticultural Society--March Meeting 137
Potomac Fruit-Growers 138
A Suggestion to Inquirers 138
A Winter Peach 138
Greenhouse, &c., for April, by W. D. Brackenridge 138
Advice to Amateur Florists, by Wm. Fraser. 139
New Plants, by W. F. Massey 139
A Venerable Horticulturist and Long-lived Plants 140
Rock Work, by N. F. F 140
Growing Violets, by N. F. F 140
Ornamental Grasses, by J. Cook 141
The Progress of Floriculture, by C. H. Snow. 141
Two Fine Lawn Trees 142
Poinsettia Pulcherrima, by R 142
Vegetable Garden for April 143
Sweet Potatoes, by Dr. G. W. Briggs 143
The Chinese Yam 144
Gas Tar and the Plum Curculio 144
Home Comforts, by T 145
Chapters on Health, by Mrs. Bristor 145
Marriage 146
Boys and their Mothers 146
Reproving Children 146
A Hint to Housekeepers 146
Domestic Recipes 146
Maryland Granges 147
Grange Items 148
Editorial Notices 148
Agricultural Matters in the Legislature 149

Baltimore Markets—April 1st.

Quotations given below are Wholesale Prices.

Breadstuffs.—*Flour.*—Firm and advancing. We quote: Howard St. Super $4@4.50; do. do. Extra $5@5.50; do. do. Family $6@6.75; Western Super $4@4.50; do. Extra $5@5.50; do. Family $6@6.75; City Mills Super $4.25@4.75; do. do. Extra $5.25@5.75; do. do. Rio brands Extra $6.75; Spring Wheat Flour $5.25@6; do. do. patent $6.50@7.50; Patapsco Family $7.75; do. Extra $7.50; Fine $3@3.50; Rye Flour $3@3.25; Corn Meal, City Mills ₩ brl. $2.75@3; do. do. City Mills ₩ 100 lbs. $1.15@1.20; do. do. Western $1@1.05.

Wheat.—Market firm, but quiet. We quote: Md. & Va. Red $1.30@1.37; do. do. Amber $1.40; Upper Md. & Pa. Red $1.36; Western No. 2 do. spot $1.34@1.34½; do. do. do. May delivery $1.36.

Corn.—Frm. We quote: Southern White 54 cts.; do. yellow 54 cents; Western steamer, spot 50 cents; do. mixed, spot 54¼ cents; do. do. May delivery 55¾@56 cts.

Oats.—Quiet and only barely steady. We quote: Western mixed 34 cents; do. bright 36 cents; Southern, fair to good 35@36 cents; do prime 38 cents; Pennsylvania 35@37 cents.

Rye.—We quote good to prime at 64@65 cents.

Tobacco.—Dull for all descriptions. We quote: Maryland—frosted and inferior $2; sound common $2.50 @$3; good common $3.50@5; middling $6@7; good to fine red $8@10. Virginia—common and good lugs $2@ $5.50; common to medium leaf $6@8; fair to good leaf $8 @10; selections $12@16.

Hay and Straw.—Dull and heavy. We quote; Hay—Cecil Co. $14@16; prime do. Pennsylvania and Maryland $13@15; do. Western $12@13; do. mixed $12@13; do. Clover $12@14. Straw—Wheat $8@9; do. Oat $10@12; do. Rye $11 @ 12.

Provisions.—Firm but quiet. We quote: Bulk Shoulders, packed, new 4¼@4¾ cts.; do. C. R. Sides, do. do 5¾ cts.; do. L. C. Sides, do. do. 5¾ cts.; Bacon Shoulders, do. 4¾@5 cts.; do. C. R. Sides, do. 6¼ cts.; do. Hams sugar-cured, new 9½@10½ cts.; do. Shoulders, do. 6¼ cts; do. Breasts 7¾ cts.; Lard, Refined, tres., 8 cts.; do. Crude. do. 7¼ cts.; Mess Pork, ₩ brl., $10.75; Extra Prime Pork, ₩ brl., $10.00. *Butter.*—Choice in demand; low grades dull and heavy; New York State choice fresh tubs 30@32 cts.; do. firkins 25@28 cts.; Western tubs, choice, fresh 21@22 cts. *Cheese.*—Eastern good to choice, new 12½@14 cts.; Western good to choice, new 12@13¾ cts. *Eggs.* 10@11 cts.

Produce.—Apples—New York State, ₩ brl. $3.50@4; Beans, N. Y. medium, ₩ bus. $1.80@1.90; Peas, black-eyed, ₩ bus. $1.30@1.40; Peas, green ₩ bus. $1.25@1.40; Onions, ₩ brl. $1.50; Potatoes, Early Rose ₩ bus. 45@55 cts.; do. Peerless ₩ bus. 35@40 cts.; do. Maine Carters 35@40 cts.; do. Sweet. ₩ brl. $2.00@2.50; Beeswax, ₩ lb. 25@26 cts.; Ginseng, ₩ lb. 90@$1.00; Seneca Root, ₩ lb. 55@60 cts.; Virginia Snake, ₩ lb. 10@12 cts.; Feathers, ₩ lb. 40@45 cts.; Hides, dry country, ₩ lb. 13@15 cts.; Broom Corn, ₩ lb. 4½@7 cts.; Sheep's Pelts, each 50@$1.00; Tallow, country, ₩ lb. 6¼@7 cts.; Soap, country, ₩ lb. 4@6 cts.

Wool.—Unwashed, coarse, ₩ lb; 28@30 cts.; do. do., fine, ₩ lb. 23@25 cts.; do. tubwashed, coarse, ₩ lb. 38@40 cts.; do. do., fine, ₩ lb. 30@33 cts.; do. fleece-washed, ₩ lb. 33@34 cts.

Live Stock.—*Beef Cattle*—Market firmer; we quote at $3.50@5.75 ₩ 100 lbs., a few selling at the latter figure. *Milch Cows*—We quote at $45@55, common at $25@35 ₩ head, and dull.

Hogs.—We quote at 5@5¼ cts., a few choice selling at 5¾@5¾ cts.; moderate demand.

Sheep.—Demand active; quote wool sheep at 5@6¼ cts., and sheared at 4@5¼ cts.; good lambs sell readily at 8@10 cts. ₩ lb. gross.

R. W. L. RASIN & CO.

THE OLDEST AND LARGEST MANUFACTORY OF CHEMICAL FERTILIZERS IN BALTIMORE.

The great importance which has been attained by the interest of fertilizer manufacture in this city is well illustrated by the operations of this well-known house. Mr. Rasin is one of the oldest manufacturers in this line in the country, having been prominently identified with it since the earliest days of its importance. He has always been active and enterprising in developing the interest, and has been instrumental in introducing some of the most valuable guanos that have ever been imported. He has been a large operator for the past quarter of a century, and has acquired a most thorough and extensive acquaintance, not only with the processes of manufacture peculiar to this industry, but with the character of the soil in all sections of the Atlantic and Gulf States, and the properties which are most essential to be restored to the soil of each district through the agency of the fertilizers. He has been one of the most successful manufacturers in Baltimore, and the thorough knowledge to which we have referred has formed the basis of this success. His efforts have always been well directed, and the brand of his name upon any goods is accepted throughout the South as the best possible guarantee of the efficiency and worth of the articles it covers.

The firm of R. W. L. Rasin & Co. are the most extensive manufacturers of chemical fertilizers in this city. Their factory, at the corner of Covington and Cross streets, is an immense establishment,—having a frontage of 473 feet, with a depth of 175 feet, and covering an area of nearly two acres. The factory proper is 156 feet by 56 feet, and is equipped with the most modern and improved machinery and appliances known to this branch of manufacture. The product of these works bears a high character with the trade, and is in active demand wherever the preparation of artificial fertilizers is known.—*Baltimore American.*

It affords us great pleasure to produce the foregoing. Mr. Rasin was one of the first and has continued one of the staunchest friends of the farmers' movement we know of, and he deserves well at the hands of every one who appreciates fair and liberal dealing.—*Virginia Patron, March* 22, 1878.

New Advertisements.

J. Bolgiano & Son.—Hyde's Egyptian Sweet Corn.
Baltimore Hydraulic Cement Pipe Works.—Cement Pipes, Vases, &c.
Geo. Chipman & Co—Square Box Butter Prints, &c.
Platt & Co.—Shell Lime.
John Q. A. Holloway.—"Excelsior" and "Ammoniated Phosphate."
Wm. Davison & Co.—Fertilizer Chemicals and Stockbridge Manures.
Linton & Lamott.—Geiser Separator and Peerless Engines.
G. Westinghouse & Co.—Threshing Machines.
Thos. Norris & Son.—Agricultural Implements, &c.
National Bureau of Engraving.—To Stock Raisers and Manufacturers.
Thos. Jackson.—Evergreen and Deciduous Trees.
Thos. Jackson.—Beecroft's Wheel Hoe and Hand Weeder.
F. W. Chiles.—Improved Stock.
B. C. Dillard.—Game Fowls and Eggs.
Robt. Turner & Son.—Peruvian Guano.
Maryland Fertilizing and Manufacturing Co.—Fertilizers.
Dorsey, Moore & Co.—Agricultural Implements and Machinery.
James Bates.—Tobacco Screws.
American Farmer Agency.—Improved Stock.
Joshua Horner, Jr., & Co.—Super-Phosphates, Bone, &c.
Joshua Horner, Jr., & Co.—Tobacco Sustain.
Joshua Horner, Jr., & Co.—Raw Bone Super-Phosphate.
T. T. Gorsuch.—Berkshire Swine.
Pennock Manufacturing Co.—Double-Harpoon Horse Hay Fork.
S. C. DeCou.—Trees and Plants.
Wm. Wirt Clarke.—Plaster.
Wm. Wirt Clarke.—Cement, Portland, American, &c.
Wm. Wirt Clarke.—Petrifying Liquid, for Damp Walls, Leaky Cisterns, &c.
J. J. Turner & Co.—"Excelsior."
J. J. Turner & Co—Ammoniated Super-Phosphate.
D. Gorsuch and others.—To Buyers and Sellers of Hay.
Kearney Chemical Works.—Poison for Potato Bug.
Poole & Hunt.—Water-wheels, Portable and Stationary Engines.
Robt. J. Halliday.—Catalogue and Price List of Bedding and other Plants.
A. G. Mott.—Agricultural Implements, Mower Repairs, &c.

A. G. MOTT,

Manufacturer and Dealer in

Agricultural Implements, Machines and Seeds,

No. 40 Ensor St., Baltimore, Md.

☞ A full line of repairs for Mowers and Reapers. Repairing Machines and Implements a specialty. Plow Castings by piece or ton. A call is solicited.

BONE DUST AND POUDRETTE.

BONE DUST, pure fine ground bone, prepared for the drill, containing 4 per cent. Ammonia and 50 per ct. of Bone Phosphate.

Also, **CLIMAX POUDRETTE,** our own manufacture, warranted not to be excelled. For sale by

ROB'T TURNER & SON,
43 S. Frederick St., Baltimore.

Victory or Death.

I will sell Eggs from my Pit Games Tilthammer and Tartars, gotten of Dr. Cooper, of Pennsylvania, for $2.00 per setting of 13; also a few good Stags and Pullets, 1877 hatch, for sale cheap. Persons getting Birds of me can rely upon getting good true dead game Birds.

B. C. DILLARD,
Peak's X Roads, Spottsylvania Co., Va.

DISCREPANCY IN PRINTING

Dissolution of Copartnership.

BALTIMORE, March 19th, 1878.

The Copartnership heretofore existing between the undersigned, under the name of **J. J. TURNER & CO.,** is this day DISSOLVED, by mutual consent. Either will sign in liquidation.

J. J. TURNER,
J. Q. A. HOLLOWAY.

The undersigned, *Originator* and *Manufacturer* of the FERTILIZERS

"EXCELSIOR" AND "AMMONIATED PHOSPHATE"

heretofore sold by **J. J. TURNER & CO.,** having secured the works of the old firm, with its complete machinery, particularly adapted to their uniform manipulation, will continue their manufacture on his own account, with his office adjoining the works, at **No. 107 McElderry's Wharf,** where he will be pleased to see his friends and patrons, assuring them that the **FERTILIZERS** manufactured by *him* shall be of the same uniform and high standard quality as sold by the old firm since their introduction in 1858.

JOHN Q. A. HOLLOWAY.

BALTIMORE, March 19th, 1878.

FIRST CLASS **TREES AND PLANTS** AT VERY LOW RATES.
Apple Trees, 15c. each; **Standard Pear, 40c.** each; **Dwarf Pear, 30c.** each. *Strawberries, Raspberries, Blackberries,* and *Grape Vines* by the doz., 100, 1,000 or 10,000. All goods packed and delivered at depot without extra charge. *Price-list free.* Address S. C. DECOU, MOORESTOWN, Burlington Co., N. J.

CEMENT.
ENGLISH PORTLAND for artificial Stone Work and out-door Walks, Kitchen and Wash-room Floors.—AMERICAN CEMENT for Cisterns, Masonry, &c.—CALCINED PLASTER for building purposes.
WM. WIRT CLARKE, 61 S. Gay St., BALTIMORE.

250,000 BUS. SHELL LIME
At a reduced price; quantities to suit. Wharf, South Side Basin.
PLATT & CO.
OFFICE, 30 SOUTH ST.

HYDE'S EGYPTIAN SWEET CORN.
A very superior variety for table use, having large ears and delicious flavor. 50 cents per quart; by mail, 75 cents. For sale by
J. BOLGIANO & SON, Seedsmen,
28 S. Calvert Street, Baltimore, Md.

IMPROVED STOCK.

AMERICAN FARMER AGENCY
For the Purchase and Sale of Live Stock of Improved Breeds, Cattle, Horses, Sheep, Swine, Poultry, Dogs, &c.

In this vicinity, of some particular kinds, a better selection can be made than elsewhere, while superior facilities exist for their safe and prompt shipment. Especial attention will be given to the selection from the stocks of reliable breeders, and the careful shipment of such animals, fowls, &c. as may be ordered. Terms cash, (or its equivalent.) All who have improved stock for sale, and those who wish to purchase, are invited to address

American Farmer Agency,
GEORGE O. BROWN, Manager,
128 W. BALTIMORE STREET, BALTIMORE.

TO TOBACCO PLANTERS.

1858

1878

TWENTY YEARS' EXPERIENCE

By Planters of Maryland and Virginia in growing Tobacco has convinced the most skeptical that

"Excelsior" has no Equal

In growing and maturing that crop. It is now their unanimous opinion that "from the application of EXCELSIOR the crop is heavier, of finer quality, cures earlier, and is not so liable to suffer drought, as from the use of Peruvian Guano."

☞ We refer to every Planter in Maryland.

Uniformity of quality guaranteed by the Manufacturers.

PRICE $50 PER TON.

J. J. TURNER & CO., 42 Pratt St., Baltimore.

THOMAS NORRIS & SON,

— AGENTS FOR —

AULTMAN & TAYLOR Separators and Steam Engines,
WESTINGHOUSE'S Vibrators, Clover Hullers and Cleaners and Horse-Powers,
W. A. WOODS' Mowing and Reaping Machines,
TEMPLE'S Porcelain-Lined Cylinder Cucumber Pump,
PENNOCK'S Genuine Corn Sheller, Genuine Van Wickle Fans.

We continue to sell the well-known

Novelty Wheel Hay Rakes,

JERSEY CULTIVATORS,

IRON AGE CULTIVATOR,

(The most popular implement of the day.)

"MATTA" DOUBLE-SHOVEL PLOWS,
GENUINE WALKING CULTIVATORS.

Manufacturers and Dealers in all kinds of

Implements and Machinery, Seeds, &c.

We solicit orders from our old friends and customers.

THOMAS NORRIS & SON, Agts.

42 Light Street, Baltimore.

IN PRINTING

To Sellers and Buyers of Hay.

The irregular and irresponsible system of brokerage, with its well-known attendant evils, long prevailing at the several Hay Scales in Baltimore to the disadvantage of both producers and consumers, having become so great a burden on all concerned, the agricultural community, as represented by and acting through the Baltimore County Grange, has decided to appoint a competent and responsible agent to represent it, and to concentrate in his hands, as far as possible, the sale of HAY, STRAW, HUSKS, EAR-CORN and other bulky farm products.

To this end the co-operation of all farmers in Baltimore and the adjacent counties who send their products to the city is urged, and buyers are asked to give their support to the agent selected. The object of this movement is not to combine sellers as against buyers, but to bring buyers and sellers closer together, and to dispense with the superfluous broker who has so long come between the two classes to the profit of himself alone. In the plan proposed the agent stands in place of the producer, and we commend him to the confidence and favor of all who sell or buy at the scales.

The Agent chosen is Mr. JOSHUA F. C. TALBOTT, who has given ample bond for the faithful performance of the duties imposed upon him, who will always be found in person at the Eastern Scales, and by his representatives, T. G. SHIPLEY, at the Western, and ADAM TALBOTT, at the Northwestern Scales.

Orders from persons wishing to purchase hay, &c., may be left at the Maryland Grange Agency, southwest corner Sharp and Camden streets, Baltimore, where any further information may be obtained.

Mr. Talbott may be addressed at either of the Scales, or at the Grange Agency, as above.

DICKINSON GORSUCH,	C. M. BOSLEY,
C. LYON ROGERS,	BENJ. F. TAYLOR,
WM. T. ALLENDER,	JACOB M. PEARCE,
CHAS. W. SEMMES,	EDW. P. PHILPOTT,
THOS. B. TODD,	A. W. SWEENEY.

WATER WHEELS.

THE UNEQUALLED JAS. LEFFEL DOUBLE

TURBINE WATER WHEEL,

PORTABLE AND STATIONARY

STEAM ENGINES, STEAM BOILERS,

SAW, FLOUR AND GRIST MILLS,

MACHINE MOULDED MILL GEARING,

SHAFTING, PULLEYS AND HANGERS

Of Improved Designs, A Specialty

Address, **POOLE & HUNT,**

Send for Circulars. BALTIMORE, MD.

PLASTER.

No. 1 FINE GROUND AGRICULTURAL PLASTER,—for sale in bulk, bags or brls. In cargo lots or less, at LOWEST MARKET RATES.

WM. WIRT CLARKE, 61 S. Gay St., BALTIMORE.

CORN! CORN! CORN!

AND

SPRING CROPS.

HORNER'S

AMMONIATED

Raw Bone Superphosphate

Prepared expressly for Corn, Oats and Potatoes, for which it is admirably adapted.

"The BEST and most ECONOMICAL Fertilizer ever used on Corn," is the opinion of those who have tried it.

Quick and reliable in its action, and unequaled by any other article offered at same price.

IN FINE DRILLING CONDITION.

Joshua Horner, Jr., & Co.

Cor. Bowly's Wharf and Wood St., Baltimore, Md.

DOUBLE HARPOON

HORSE HAY-FORK

BEST IN THE WORLD.

Descriptive Catalogue sent free.

Pennock Manufacturing Company,

KENNETT SQUARE, Chester Co., Pa.

Square Box Butter Prints,

FOR SALE BY

Geo. Chipman & Co.

Cor. Calvert and Lombard Sts.,

BALTIMORE, MD.

☞ Also, Brooms, Buckets, &c.

R. J. HALLIDAY'S

New Catalogue for 1878,

ALSO MAILING SHEETS,

NOW READY.

Mailed FREE to all applicants. Contains select list of ROSES, BEDDING PLANTS, &c. Address,

R. J. HALLIDAY,

Baltimore, Md.

IMPORTANT TO STOCK-RAISERS

—AND—

MANUFACTURERS.

The PHOTO-ENGRAVING DEPARTMENT

OF THE

NATIONAL BUREAU OF ENGRAVING,

call attention to their process for making Relief Plates from Photograph Negatives, without the intervention of pencil or graver.

Also, Reproductions of

ENGRAVINGS AND PEN-DRAWINGS,

ENLARGED OR REDUCED.

The Plates made by us are *superior substitutes* for *Wood Engravings.*

To the Stock-Raiser wishing to advertise his animals this offers the best means of obtaining the most perfect and life-like representations.

Manufacturers and others wishing Illustrations, can send us Photograph Negatives or Pen Drawings, and in a few days receive from us Electrotypes to print from. Our Pictures are the cheapest, best and most reliable.

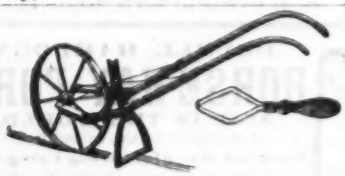
Send to us for descriptive circular.

Address,

NATIONAL BUREAU OF ENGRAVING,

Office, 435 Chestnut St., Philadelphia.

Factory, 512 Pine Street.



BEECROFT'S WHEEL HOE.

PRICE GREATLY REDUCED FOR 1878.

This is one of the greatest labor-saving machines invented. It is substantially made from the best material; is durable and light, weighing but 18 lbs. Knives to cut any width, from 6 to 15 inches. It has given perfect satisfaction wherever used.

Beecroft's Hand Weeder. (See cut above.) This is an indispensable implement in a garden where a hoe cannot be used. Price Lists and Descriptive Catalogue free. Freight very low to the South.

THOMAS JACKSON,
Manufacturer, Portland, Me.

5,000,000

Evergreen and Deciduous Trees of all varieties and sizes. Also a large stock of Fruit Trees, Grape Vines, Currants, Gooseberries, Raspberries, Blackberries, Strawberries, Flowering Shrubs, Roses, Hedge Plants, Weeping Trees, &c. All at very low prices for spring of 1878. Price List mailed free. Freight very low to the South.

THOMAS JACKSON,

NURSERYMAN, PORTLAND, ME.

Baltimore Hydraulic Cement Pipe Works.

JAS. E. BRADY, Proprietor.

MANUFACT'Y—COR. BEL-AIR (GAY ST.) AND BOUNDARY AVENUES.

OFFICE—122 W. BALTIMORE STREET, (UP STAIRS.)

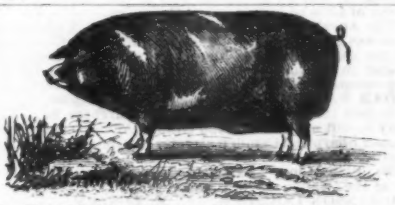
Hydraulic Cement PIPE, from 3 to 24-inch bore.

For Sewers, Drains, Culverts, Aqauducts, Chimneys, Hot-House Flues, Well Linings, Casing for Steam and other Iron Pipe, &c.

The cheapest and most durable article for road and farm draining, culverts, &c. They have been in use for the last ten years on roads out of Baltimore. Their strength and other qualities make them the very best article that can be used for above purposes.

Also Fancy Garden and Lawn Vases and Chimney Tops made of cement, and recommending themselves by beauty of design and finish.

Farmers, Gardeners, Road Authorities and the public generally will find it to their interest to give this pipe a trial.



DEVON CATTLE. SOUTHDOWN, LEICESTER AND MERINO SHEEP. POLAND-CHINA, BERKSHIRE and ESSEX HOGS A SPECIALTY.

All bred from the most noted and fashionable strains of Prize-Winning Stock.

I took first premiums in their classes on Devon Cattle, Leicester and Merino Sheep, Poland-China and Essex Hogs, at Virginia State Fair in 1875 and 1876, besides a large number of Prizes taken at Piedmont and Lynchburg Fairs.

Address, F. W. CHILES,
Tolersville, C. & O. R. R., Va.

TOBACCO GROWERS!

HORNER'S TOBACCO SUSTAIN

The Great Southern Plant Supporter

STANDS UNRIVALED

IN ITS EXCELLENCE AS A NOURISHING AND INVIGORATING **FOOD** FOR THE **TOBACCO PLANT.**

It possesses all the stimulating properties of Peruvian Guano, gives vigor to the young plant, promotes its growth, and insures an early maturity of the crop, without burning or otherwise injuring the plant.

Its superior merit is acknowledged by all who have once used it.

Write for samples, prices, &c.

Joshua Horner, Jr., & Co.,
Cor. Bowly's Wharf and Wood St.,
BALTIMORE, MD.

ESTABLISHED 1848.

HORNER'S

CONCENTRATED

SUPER-PHOSPHATE

FOR ALL CROPS.

It is made of the best and most concentrated materials, possesses all the virtues of PERUVIAN GUANO and BONE-DUST combined, and is well adapted to Wheat, Corn, Oats, &c., producing abundant crops where all others fail. Having a large percentage of Soluble and Precipitated **Phosphoric Acid and Ammonia**, it is without doubt **the richest Commercial Fertilizer in the country.**

HORNER'S

BONE-DUST

Made only of Slaughter-house Bones, contains a larger percentage of AMMONIA and BONE PHOSPHATE LIME than any other brand in the market.

WE OFFER

One Thousand Dollars!

For the Detection of any Impurity in our Manufacture of Bone.

We do not steam or bake our Bones, or otherwise treat them so as to destroy the animal matter, which is rich in ammonia.

The Best Article in the Market

HORNER'S

Super-Phosphate of Lime

— OR —

DISSOLVED BONE,

MADE OF PURE SLAUGHTER-HOUSE BONES

It is richer in Soluble Phosphoric Acid and Ammonia than any similar article in the market.

CHEMICALS

And other materials for making

Home Fertilizers

Muriate Potash, Kainit,
Sulphate Soda, Plaster,
Peruvian Guano, Oil Vitriol,
Nitrate Soda, Dried Blood,
Dissolved South Carolina,
Dissolved Raw Bone, &c., &c.

A full supply of PURE Materials always on hand and for sale at lowest market prices.

Write or call before buying elsewhere.

Joshua Horner, Jr., & Co.

COR. BOWLY'S WHARF AND WOOD STREET

BALTIMORE, MD.

Damp Walls

CURED by the application of English Petrifying Liquid, and inside walls that are damp can be papered on at once. *Leaky Cisterns* can be effectually cured. For further information, address

WM. WIRT CLARKE, 61 S. Gay St., BALTIMORE.

OUR IMPROVED PEST POISON

Is a Safe, Sure and Cheap Destroyer of the

POTATO BUG!

TRADE MARK.

Warranted to kill FIVE Bugs, where PARIS GREEN KILLS ONE.

Yet is safer to use, and not injurious to plants. Costs 25 to 50 cents an acre. Our Cabbage and Currant Worm Powder is warranted NOT poisonous, but sure death to worms. Samples sufficient for a trial of either preparation sent on receipt of 15cts. Postage stamps or cash. 1-4 lb box of Pest Poison mailed for 30cts. Send for Circular with hundreds of testimonials. Discount to the trade.

KEARNEY CHEMICAL WORKS, P.O. Box 3139.
66 Cortlandt St., New York City

Berkshire Pigs!

FOR SALE.

My breeding stock consists, in part, of Imported Berkshires, selected from some of the best families of Berkshires bred in England—families noted as large prize winners; the balance, except 2 young sows, bred by myself, are out of imported stock of good pedigree. Sallie Wanderer II, and Young Liverpool III were bred by Russell Swanwick, England, and imported by Mr. T. S. Cooper, Pa., in 1876. The sow is out of Othello's Sallie, and sired by Wanderer II; the boar out of Sallie VIII, and sired by Young Liverpool, and he by Othello—g. dam Sallie VI (Lady Liverpool.) Hesperian Major II, bred by B. St. John Ackers, England, who imported him with others in 1876 to Philadelphia to be exhibited at the Centennial Exhibition of live stock; he and others of this exportation were bought by Messrs. Benson & Burpee, Philadelphia. They assured me that this Pig was the best one of the litter—dam Snowdrop—sire Hesperian Major. Mr. T. S. Cooper, in his catalogue for 1876, says: "Othello's Sallie is one of the best Sallie sows living, and as a breeder has but few equals. She stands amongst the first in my herd." That, "Othello took first prize at Gloucester, the only time he has ever been shown." That, "His Pigs for years won any number of prizes at the leading shows in England, and it's a pity that such a pig should die." He also says of the g. dam of Young Liverpool III, Sallie VI (L. L.) is well known amongst the English breeders; has won more prizes and bred more prize animals than any other sow in the kingdom." Messrs. Benson & Burpee, in their Descriptive Catalogue, say: "Besides the Collier, we purchased two very fine boar pigs and two sow pigs—all imported and out of Snowdrop—by Hesperian Major. These pigs are perfect beauties, and promise to make show hogs of rare merit and very uniform excellence. Their sire, Hesperian Major, is one of the finest boars in England, and was bred by Heber Humphrey, Esq. He was purchased for the Prinknash Herd when eight weeks old at a cost of 50 guineas." They also mention seventeen premiums and reserve numbers that Snowdrop, her sister and brother won in England in 1876 up to July of that year. The different families of my imported Berkshire stock are noted as having been large prize winners.

I have for sale a few pair of pigs from 5 to 8 months old; and also several winter and spring litters that will be ready for shipping during the early spring and summer months. I will ship none but good pigs; all others will be turned into pork. Pedigrees and other information given when required. Prices moderate. Orders solicited.

Address, **T. T. GORSUCH,**
Glencoe, Baltimore County, Md.

DORSEY, MOORE & CO.

MANUFACTURERS' AGENTS AND DEALERS IN ALL KINDS OF

Agricultural Implements and Machinery.

AGENTS FOR THE CELEBRATED

Sturdebaker Farm and Freight WAGONS, Taylor Manufacturing Co.'s Steam Engines, Empire Threshers, Daniels' Hay and Straw Fodder Cutter, (best in the market,) **Empire Grain Drills, and Adamant Plows. Grain Cradles, Seed Sowers, Cultivators, Harrows, &c., &c.**

We are the ONLY manufacturers of **Montgomery's Celebrated Improved Rockaway and Little Champion Wheat Fans.**

52 S. CALVERT STREET,

Send for circulars. **BALTIMORE, MD.**

STEAM ENGINES.

Portable Steam Engines

FOR RUNNING SEPARATORS, SAWING, &c.

The Peerless Portable Steam Engines,

Manufactured by F. F. & A. B. Landis, Lancaster, Pa.,

WITH THE

Geiser Separator, Cleaner & Bagger

Makes a better outfit for a thrasherman than any other outfit for the money in this market. They thrash as fast, save the grain better, and clean it cleaner. This all know that have used them. Three-fourths of the machines shipped from this market are the Geiser machines, because they are a better machine than any other, and cost less money. The Geiser's late improved horse-powers are better adapted for running the Geiser Separators than any other power, as they have the right speed to give the Separator its proper speed, which very few powers do. Some powers give too much speed, which makes the Separator run hard and cut the grain. Some do not give speed enough, which makes dirty work, &c. The Separators can not thrash clean. Our machines, with the proper speed, are all fully warranted. All sizes of Steamers and Separators and Powers on hand,—2, 4, 6, 8, 10, 12 horse power.

THE DOMESTIC ENGINE

Is very convenient for Farmer's light work,—shelling corn, cutting straw, pumping water for stock, &c. Ice-Cream makers, churning Butter, Butcher's uses, cutting Sausage, heating water, steaming. Also for Printing Presses.

LINTON & LAMOTT,

70 AND 72 NORTH STREET,

BALTIMORE.

TO
Corn Growers & Tobacco Planters.

J. J. TURNER & CO.'S
Ammoniated

BONE SUPER-PHOSPHATE.

ANALYSIS.

Ammonia,	**3.30**
Soluble Phosphate of Lime,	**23.91**
Bone Phosphate of Lime,	**3.15**
Potash,	**4.07**

Composed of the most concentrated materials, it is

Richer in Ammonia and Soluble Phosphates

THAN ANY OTHER FERTILIZER SOLD,

And is made with the same care and supervision as our EXCELSIOR, its only competitor. Uniform quality guaranteed. Fine and dry, in excellent order for drilling. Packed in bags.

PRICE $40 PER TON.

J. J. TURNER & CO.

12 Pratt Street, Baltimore.

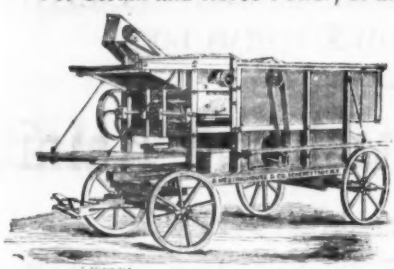
C. WESTINGHOUSE & CO.

SCHENECTADY, N. Y.,

MANUFACTURERS OF

THRESHING MACHINES

For Steam and Horse Power, of all the sizes that different localities require.



Our THRESHERS were entered for competition at the late International Exhibition, and were thoroughly tested with the most satisfactory results in the Field Trial accompaning that exhibition.

They were the only machines for *Steam Power* which were awarded a Medal and Diploma, that participated in the trial

We offer these machines to the public with the utmost confidence of being able to render entire satisfaction to all purchasers.

We call attention to the leading features of our machines:

In Threshers (large and small) the very best BAR CYLINDER and CONCAVE, large SEPARATING CAPACITY, unequaled CLEANING APPARATUS, and all with the least possible complication in construction, in insuring durability and the use of a small amount of power. In Powers (both Lever and Tread) every desirable feature for obtaining the full value of the force applied, together with durability, and the most approved plans for handling.

Our facilities for producing these machines have been largely increased, and the increasing demand for them is an assurance that they have not failed to meet the expectations of purchasers.

We invite correspondence with parties desiring to purchase such machinery, and will furnish our

Descriptive Catalogue Free.

ADDRESS G. WESTINGHOUSE & CO.,

Schenectady, N. Y.

THE

Maryland Fertilizing and Manufacturing Co.

Offer to the public the following well-known and reliable brands of ***FERTILIZERS,***—all of their own manufacture:

Tobacco Food,
Cotton Food,
Ammoniated Super-Phosphate,
Sangston's Cereal and Plant Food,
Alkaline Super-Phosphate,
Dissolved Phosphate,
Acid Phosphate,
Fine Ground S. C. Phosphate.

☞ALSO FERTILIZERS MANUFACTURED FOR PARTIES FURNISHING THEIR OWN FORMULÆ.

☞ **Muriate of Potash and Kainit**

CONSTANTLY IN STORE AND FOR SALE.

J. EDWIN MYERS, Genl. Agt.

H. C. HOWARD, Secretary.

No. 4 S. HOLLIDAY STREET,

BALTIMORE, MD.

ap-6m

TOBACCO SCREWS OR PRIZES.

TO TOBACCO GROWERS,
COMMISSION MERCHANTS,
PLANTERS AND OTHERS.

A Complete Set of New Patterns, embracing
Stuart's Right and Left, Murray's, and various kinds,
Always on hand, warranted to work true and of the best make.

JAMES BATES'
Iron Foundry and Machine Shop,
Corner Pratt and President Sts., BALTIMORE, MD.

RHODES'
Standard Manures,
PREPARED FOR ALL CROPS.
JNO. M. RHODES & CO.
82 South Street, BALTIMORE.

CHAS. W. HAMILL & CO.
MANUFACTURERS OF
SILVER-PLATED WARE,
28 & 30 N. Holliday Street,
BALTIMORE, MD.
Tea Sets, Waiters, Ice Pitchers, Butter Dishes, Cups, Goblets, and Communion Ware.
REPAIRING, REPLATING AND GILDING IN THE BEST MANNER.

QUINN & DUNCAN,
Carriage Manufacturers,
No. 1 Orchard Street,
One door from Madison Avenue, BALTIMORE.
All work guaranteed. Repairing done promptly, and in a neat and durable manner.

Light Brahmas & Partridge Cochins.

Best fowls for the farm—very large, hardy and handsome. My stock won premiums at Baltimore in 1876 and 1877, also at Indianapolis in 1878. Chicks and eggs at moderate prices.
CHAS. B. WISE, California, Md.

THE NEW

Real Estate Exchange,

IN THE

American Building, No. 2 South St.

Offers a rare chance to SELL or TRADE OFF your REAL ESTATE.

CITY LOTS!
HOUSES!
FARMS!
LANDS!

BOUGHT AND SOLD.

CITY PROPERTY WANTED in exchange for FARMS, and for sale.

LANDS will be traded for MERCHANDISE or PERSONAL PROPERTY.

All Property left on our books will be ADVERTISED AT OUR OWN EXPENSE.

No charge unless we sell or trade.

We offer the finest facilities ever known for the sale or trade of property. Send us in a written description of your real estate; it costs you nothing to try us.

R. M. HALL,
Real Estate Broker, American Building.

$66 a week in your own town. Terms and $5 outfit free. Address H. HALLETT & Co., Augusta, Maine.

FOR SALE.

BERKSHIRES!

OF THE

Best Strains of Blood.

Several imported BOARS and a number of imported SOWS used in the herd—among others would name SMYTHE-TO-WIT, first prize at Swindon, England; COMPTON, first at Harford Co. Show, 1876; the three LADIES PLYMOUTH, first at the Centennial; QUEEN OF LINDEN, first at Harford Co. Show, 1875 and 1876; also, OCTAVIA, LADY LINDEN, SARACEN CHIEF, and other prize-winners.

Pedigrees and further particulars furnished on application.

ALEX. M. FULFORD,
BELAIR, MD.

When writing, say where seen.

D. E. WILLIAMS,

170 N. Eutaw Street,

Shirt and Drawers Maker.

We ask a trial of a Sample Shirt. If not satisfactory it may be unconditionally returned.

☞ A form for self-measurement sent by mail.

PALLISER, PALLISER & CO.

ARCHITECTS

BRIDGEPORT, CONN.

Designs, plans, etc., for all kinds of Buildings, Monuments, Furniture and Interior Decorations prepared at short notice and sent to all parts of the country. Author of *Model Homes for the People*; price 25 cents. *American Cottage Homes*, $5. Full set plans of Farm House, page 126. Postpaid, 50 cents.

ASBESTOS! Indestructible by Fire or Acids.

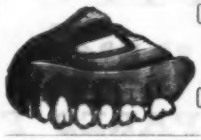
Do Your Own Painting and Roofing.

Use H. W. JOHN'S Celebrated ASBESTOS materials. Finest Paints, all shades, ready mixed, for outside and inside work.

The best ROOF PAINT in the world. Leaky Roofs and Walls made water-tight with this Paint and ASBESTOS CEMENT. Also FIRE-PROOF PAINT; ready-made ROOFING, light and easily applied; BOILER COVERING; STEAM PACKING, &c. ☞ SEND FOR CIRCULARS.

F. H. WILSON,
mr-3t 51 Lexington Street, BALTIMORE.

DR. J. EMORY SCOTT,



OPERATIVE & MECHANICAL

DENTIST,

N. E. COR.

Calvert and Monument Streets.

BALTIMORE.

Will be mailed FREE to all applicants. It contains colored plate, 500 engravings, about 150 pages, and full descriptions, prices and directions for planting over 1200 varieties of Vegetable and Flower Seeds, Plants, Roses, Etc. Invaluable to all. Send for it. Address

D. M. FERRY & CO., Detroit, Mich.

U. G. MILLER & CO.

Ashland, Baltimore Co., Md.

Manufacturers of Plows, Harrows, Cultivators, Drags, Shovel Plows,

And Castings of every description made to order.

The Celebrated Oxford Plows Made to Order.

Repairs promptly attended to. A liberal discount made to those who purchase to sell again.

The patronage of the public is respectfully solicited, and we pledge ourselves to use every effort to render satisfaction.

J. M. LAROQUE'S
ANTI-BILIOUS BITTERS
W. E. THORNTON
PROPRIETOR.
BALTIMORE.

A POSITIVE CURE for Headache, Dyspepsia, Nervousness, Constipation and all bilious diseases may be found in J. M. LAROQUE'S ANTI-BILIOUS BITTERS. 25 cents a paper. $1.00 a bottle.
W. E. THORNTON,
Baltimore and Harrison Streets, Baltimore.

J. M. LAROQUE'S ELIXIR OF CALISAYA BARK, a pleasant Cordial, which strengthens the weak and debilitated, is an excellent preventive of Fever, Fever and Ague, &c., and a great Tonic, especially applicable to those nervous diseases incident to Females. $1.25 a bottle.
W. E. THORNTON,
Baltimore and Harrison Streets, Baltimore.

THE ORIGINAL AND ONLY GENUINE FLORIDA WATER OF J. M. LAROQUE, delightfully refreshing and purifying, supersedes Cologne and Bay Rum. An indispensable requisite for the bath and toilet. Price reduced to 50 cents a bottle.
W. E. THORNTON,
Baltimore and Harrison Streets, Baltimore.

PEARLY WHITE TEETH, ROSY RED GUMS, A FRAGRANT FLOWERY BREATH, are the invariable results of the use of J. M. LAROQUE'S LIQUID ODONTINE, the standard Tooth Wash of the elite and fashionable. 50 cents a bottle.
W. E. THORNTON,
Baltimore and Harrison Streets, Baltimore.

If your nearest Druggist does not keep the above articles, write direct to the Proprietor, enclosing the advertised price, and the medicine will be sent you by mail or express. Be particular to write your name and address plain, and give nearest express office.
W. E. THORNTON,
Baltimore and Harrison Streets, Baltimore

GRAND TRIUMPH IN HORTICULTURE
The crowning result of *Eighteen years* of care and toil—
FELTON'S NEW BERRIES.
The CINDERELLA and CONTINENTAL STRAWBERRIES and EARLY PROLIFIC and RELIANCE RASPBERRIES is now offered to the public; TESTED NINE YEARS, and in our judgment the FOUR BEST PAYING MARKET BERRIES.
☞ CATALOGUE and PRICE LIST *Free.*
GIBSON & BENNETT,
NURSERYMEN and FRUIT GROWERS,
WOODBURY, N. J.

PATENTS.
Any information relating to obtaining Patents, Caveats, Trade-marks, etc., furnished without charge. Circulars giving full directions free. We publish a book on "How to sell Patents," and which gives much valuable information on Patent law points. Information and assistance afforded those desiring to sell their Patents.
We furnish printed Blanks for selling Rights.
MANN & CO., Patent Agents,
116 W. Baltimore St., Baltimore, Md.

POMONA NURSERY 100 acres of Trees, Vines and Plants. *Best Strawberries*, nine inches; *Raspberries*, three inches around. **Ten acres** yielded **$4,338.** Send for price-list free. **40 YEARS** Among Small Fruits, telling what and how to plant. Sent post-paid for 20 cents, *or free to every purchaser.* WM. PARRY, Cinnaminson, N. J.

TREES
We offer for Spring of 1878, the largest and most complete stock in the U. S., of
Fruit Trees, Standard and Dwarf.
Ornamental Trees and Shrubs, deciduous and evergreen.
Roses a specialty—all the finest sorts.
Green and Hot-House Plants, including best Novelties.
Descriptive and Illustrated priced Catalogues sent prepaid to customers, **free**; to others, on receipt of stamps as follows:
No. 1. Fruits, with colored plate, 15c.; plain, 10c.
No. 2. Ornamental Trees, col'd plate, 25c.; plain, 15c.
No. 3. Greenhouse, **Free.** No. 4, Wholesale, **Free.**
No. 5. Rose Catalogue for 1878, **Free.**
☞ Small parcels forwarded by mail when desired.
Address,
ELLWANGER & BARRY, Rochester, N. Y.

OUR
Victor Fertilizer!
Is Adapted to every Variety of Crops.
PRICE $45 PER TON.
Land cannot be successfully worked without reliable Fertilizers. The Farmer's only safety is in the honesty of dealers. We refer to
HON. JUDGE BRENT, Judge Court of Appeals, Md.
HON. BARNES COMPTON, State Treasurer, Md.
HON. FREDERICK STONE, ex-member Congress, Md.
And to all who know us personally.
THOMAS C. PRICE & CO.
Office, 116 S. Charles Street,
BALTIMORE, MD,
Residence, Cross Roads P. O., Charles Co., Md.

GOLD Any worker can make $12 a day at home. Costly outfit free. Address TRUE & Co., Portland, Maine

OUR CATALOGUE for 1878, of 100 pages, printed on tinted paper, containing **TWO Elegant Colored Plates** and illustrated with a great number of engravings, gives prices, **descriptions** and **cultivation** of Plants, Flower and Vegetable Seeds, Bulbs, Trees, Shrubs, etc., will be mailed for 10 cents, which we will deduct from first order. Mailed free to our regular customers. Dealers' Price-list free. Address
NANZ & NEUNER,
LOUISVILLE, KY.

VIRGINIA LANDS.
UPPER JAMES REAL ESTATE AGENCY,
BY WILLIAM HOLMAN.
CARTERSVILLE, Va.
Who offers for sale upwards of 12,000 acres of land, lying in one of the most desirable regions of Eastern Virginia.
Catalogues sent on application. my-tf

CHARLES M. MILLER,
MANUFACTURER OF
GENTS AND BOYS' DRESS SHIRTS
AND UNDERWEAR,
No. 63 North Eutaw Street, Baltimore,
4th door below Saratoga, East side.

Cromwell & Congdon

SEEDSMEN,

And dealers in every description of

Agricultural and Horticultural Tools

For the FARM and GARDEN.

FREE BY MAIL

Our Illustrated and Descriptive CATALOGUE of FLOWER, VEGETABLE and FIELD SEEDS & GARDEN REQUISITES.

AT OUR

PATAPSCO NURSERIES

We have a well-selected stock of FRUIT, ORNAMENTAL and SHADE TREES, EVERGREENS, VINES, SHRUBS, ROSES, BEDDING PLANTS, &c. FOR SPRING PLANTING.

Catalogues Free.

ROMWELL & CONGDON,

No. **51** Light Street, Baltimore, Md.

HENDERSON'S

COMBINED CATALOGUE OF

EVERYTHING

FOR THE

GARDEN

Numbering 175 pages, with Colored Plate, *sent free* to customers of past years, and to all purchasers of our books, either *Gardening for Profit*, *Practical Floriculture* or *Gardening for Pleasure* (price $1.50 each, prepaid, by mail). To others, on receipt of 25c. Plain Plant or Seed Catalogues, without Plate, free to all.

PETER HENDERSON & CO.

Seedsmen, Market Gardeners, and Florists,

35 Cortlandt Street, New York.

WALNUT HILL STOCK FARM,

Spottsylvania County, Va.

I am breeding Thoroughbred Devon Cattle, Merino and Southdown Sheep, Poland-China, Essex and Berkshire Hogs. Also Light Brahmas, White-faced Black Spanish, White Leghorns, Pekin Ducks and Bronze Turkeys.

My stock took many first premiums at the Piedmont and State Fairs.

I have selected my stock with great care from the best herds in the United States, and intend to be excelled by no one.

Orders solicited and satisfaction guaranteed. Address

Z. C. DANIEL, Twyman's Store,
Spottsylvania Co., Virginia.

ELVIRA GRAPE-VINES

$4 per dozen. $23 per 100.

Also, all the leading varieties at low rates.

STRAWBERRIES—Great American, Captain Jack, and all the older kinds, with RASPBERRIES, BLACKBERRIES, CURRANTS, ASPARAGUS Roots, TUBEROSES, GLADIOLUS, &c.

15,000 square feet of glass devoted to flowers.

Orders will be promptly attended to if left at my store, No. 91 N. Charles St., Baltimore, or addressed to

JOHN COOK,
Carroll P. O., Baltimore Co., Md.

John Saul's

Catalogue of New, Rare and beautiful plants will be ready in February, with a colored plate. Many new and beautiful plants are offered for the first time, viz:

New Rose Queen of Bedders,
Double White Geraniums,
New double Ivy-leaved Geranium,
New Zonales,
New Regal Pelargoniums,
Sonerilla Hendersonii,
Torrenia Fournerii, New Ferns,
New tuberous Begonias,
New Shrubs and Trees,
New Crotons,
New Dracænas,
Gloxinias, Alocacias, Caladiums,
Clematis, Fuchsias, Dahlias, &c.

With an immense stock of new and beautiful plants well grown, all of which are offered at low rates.

ROSES.

An immense stock of all the new and standard varieties grown in pots on own roots—CHEAP.

Fruit and Ornamental Trees.

New PEARS, new PEACHES, with a large stock of Pear, Apple, Peach, Plum, Cherries, (standards and dwarfs,) Grape Vines, Small Fruits, &c.

ORNAMENTAL TREES, in great variety, for Parks, Lawns, Gardens, &c. EVERGREENS of all sizes, of best quality and at the lowest rates. VEGETABLE SEEDS of the finest quality, fresh and pure, grown by myself or especially for me, or my importation.—FLOWER SEEDS.—Being extensively engaged in importing and growing new and rare plants, consequently my facilities for seed saving are unequalled.

The following Catalogues, with others, now ready. Mailed Free:

No. 1.—A descriptive Catalogue of Fruit Trees.

No. 2.—A Catalogue of Garden, Agricultural and Flower Seed.

No. 5.—Descriptive Catalogue of a selection of Roses.

No. 6.—A Catalogue of New, Rare and Beautiful Plants, with a colored plate, free to customers; to others, 10 cents. A plain copy to all applicants free.

JOHN SAUL, Washington, D. C.

$5 to $20 per day at home. Samples worth $5 free. Address STINSON & Co., Portland, Maine.

Established] **A. E. WARNER,** [1811.

Manufacturer of

Silver Ware & Rich Jewelry,

English, Swiss and American WATCHES of the Best Makers;
Importer and Dealer in Diamonds, Fine Watches,
Silver-Plated Ware, Table Cutlery, &c.

WEDDING PRESENTS,

Premiums for Agricultural Fairs, Fine Bronzes, Opera Glasses and Shell Jewelry, &c.

All of which is offered at GREATLY REDUCED PRICES.

je-1y No. 135 W. Baltimore Street, near Calvert, Baltimore.

Lee's Prepared Agricultural Lime,

FOR WHEAT, CLOVER AND OTHER GRASSES.

"It Prevents Smut."

The more it is tried the more popular it becomes. On the last crop it proved equal to, and in many cases much better than, high-priced Fertilizers. All who use it acknowledge its superiority as a **PERMANENT IMPROVER OF THE SOIL.**

☞ SEND FOR PAMPHLETS AND TESTIMONIALS.

L. J. WARREN,

Agent for the Manufacturer,

Price only $15 per ton. Put up in bags and delivered to Depots and Vessels in the city. 18 E. Falls Avenue, Baltimore.

PURE
FERTILIZERS,

For CORN, TOBACCO and other Spring Crops.

PURE FINE GROUND BONE,
STAG SUPER-PHOSPHATE OF LIME,
PURE DISSOLVED RAW BONE.

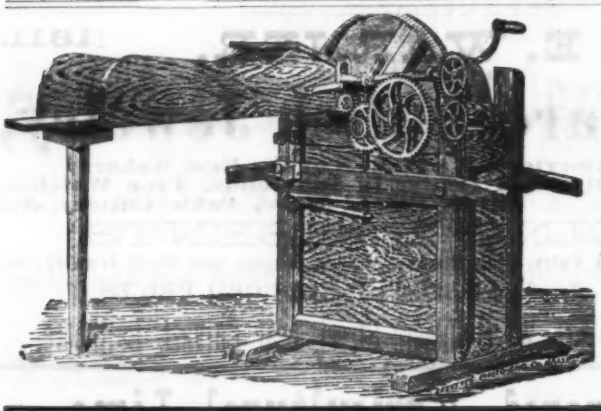
66° Oil Vitriol, German Potash Salts, Pure Chemicals for making Super-Phosphate at the lowest market price.

R. J. BAKER & CO.

36 and 38 CHARLES STREET,

BALTIMORE, MD.

SPECIAL TERMS TO LARGE DEALERS.



THE IMPROVED

LION FEED MASTICATOR,

Is the greatest feed economizer in the world!

DOWN! NOTICE! DOWN!

2-Horse Triple-Geared Pelton Power.....Only $40
4 " " " " " " " 60
6 " " " " " " " 75
8 to 12 " " " " " " 85
Clipper Self-Discharging Horse-Rake..... " 75
or 6 " " " " " " " 25
The above Power, mounted on 2 wheels, $15 extra " 100
" " " 4 " " 25 "

☞The above warranted new and complete.

E. Wagoner, Manufacturer.

WESTMINSTER, MD.

GEORGE PAGE & CO.

No. 5 N. SCHROEDER STREET, BALTIMORE, MD.

MANUFACTURERS OF

PATENT PORTABLE STEAM ENGINES,

Stationary Steam Engines and Boilers, Patent Portable Circular Saw Mills,

Sash, Muley and Gang Saw Mills, Flour Mill Machinery, Grist Mills, Shafting, Pulleys, &c., &c. ☞ AGRICULTURAL ENGINES A SPECIALTY. Lath, Shingle and Barrel Machinery, Leffel Turbine Water Wheels, Wood Working Machinery, all kinds; Tanite Emery Wheels and Grinders, Circular Saws, Saw Gummers and Tools and Mill Supplies Generally.

Agents for NICOLS, SHEPHARD & CO.'S VIBRATOR THRESHING MACHINES.

COMPLETE THRESHING OUTFITS FURNISHED.

☞Send for Descriptive Catalogue and Reduced Price-List.☜

McGINNIS HARROW.

RICHMOND, VA., Nov. 12TH, 1877.

CAPTAIN L. H. McGINNIS:

DEAR SIR—In answer to your inquiry about the McGinnis Harrow, we take pleasure in expressing our high opinion of its merits.

We have sold them to the best farmers among our customers, all of whom are fully satisfied with its work.

In thorough working of the soil, with moderate draft on the team, we do not think your harrows can be excelled.

Respectfully yours, H. M. SMITH & CO.

J. C. VALIANT & CO.

Paper Hangings & Window Shades,

Upholstering and Curtain Decorations,

WINDOW AWNINGS, MOSQUITO NETS, CORNICES, &c.

Orders by mail promptly attended to. Samples freely sent, and first-class workmen sent to all parts of the country.

183 MADISON AVENUE,

(Bet. Orchard and Biddle Sts.) BALTIMORE, MD.

Chemicals & Fertilizers.

THE CHEMICAL CO. OF CANTON.

Where and How Our Famous Fertilizers are Made—Important to Farmers and Planters.

The Chemical Company of Canton, manufacturers of chemicals and fertilizers, are the largest and best representatives of that great interest in the United States. This Company is one of the institutions to which Baltimore is indebted for all the benefits which have accompanied the development of fertilizer manufacture and the building up of what is now one of our most important industries. The Company has always been progressive, and its liberality and enterprise in encouraging scientific research and experiment in this useful, practical field, have led to important and valuable discoveries. At the same time its management has been controlled by gentlemen of the highest standing in commercial life: hence, its operations have never brought discredit upon the trade or loss to the agricultural community. The Company is a wealthy corporation, doing an immense business and drawing its patronage from all the Atlantic and Gulf States. It enjoys the highest reputation throughout all sections of the country tributary to Baltimore, and is in every respect a first-class business establishment.

The works of this Company are located at Canton, and are very extensive. The buildings are substantially constructed of brick, and cover an area of two and a quarter acres of ground. The entire establishment is equipped with the most modern and approved machinery and appliances known to this branch of manufacture, and is divided into departments, so that all the processes of the business are conducted with the utmost method, accuracy and success. The whole work is so admirably systematized that the best results are attained with the least waste of labor or material. The Company has spared no pains or expense to secure the production of the best fertilizers at a price which will commend it to the trade and to the farming community.

All the departments are under competent and experienced supervision, the entire business being conducted under the management of Mr. B. N. Baker.

The fertilizers and chemicals manufactured by this Company have been subjected to thorough analytical investigation by the most eminent American chemists, and have elicited the highest commendation. Many leading farmers and planters in different States have used the fertilizers of this Company exclusively, and regard it as unequalled and unapproachable.

In explanation of the exceptionally high character that the products of this establishment have always borne, it is important to state that *the Company manufacture only by formula given to them by their patrons, and are certain, therefore, to produce an unadulterated article at all times.*

Another special feature of this Company's business is worthy of attention. They manufacture fertilizers to order, according to any formula desired,—thus enabling a farmer to secure precisely the article best adapted to the condition of his lands or his system of planting. This is an important feature of the Company's business, and meets the wishes of many patrons. Their facilities for filling orders according to special formulas are unequalled.

The operations of this Company are very extensive, and their goods are sold in immense quantities, and shipped to all parts of the South. Some idea of their transactions may be gained from the fact that the works at present consume six tons of coal and eight thousand pounds of brimstone daily, while the consumption of chemicals, acids, etc., is proportionate. Last season the works were taxed to the utmost capacity, and were insufficient to meet the demand made upon them. The orders for the season just commenced indicate a marked increase over the demand last year, and, in order to meet it, a large addition to their main building is being constructed and will soon be complete. The track and wharf facilities at the works are excellent, and afford every advantage in loading for shipment by rail or water, without any loss by tearing or wastage. The office of the Company is at No. 15 SOUTH ST., and is connected with the works by private telegraph.

* P. O. box 231, Baltimore.

FOR SPRING CROPS.

THE POPPLEIN
Silicated Super-Phosphate

PATENTED MARCH 31st, 1874.

Containing all the ingredients necessary for the full development of the crop to which it is applied.

Chemical Laboratory of the University of Pennsylvania,

West Philadelphia, June 25th, 1877.

W. Morris Orem, President

Popplein Silicated Phosphate Fertilizer Company, Baltimore, Md.

DEAR SIR:—The sample of your Fertilizer marked B. B. B., and sent to me for examination by authority of Mr. Thos. J. Edge, Secretary of the Pennsylvania State Board of Agriculture, was analyzed by me with the following results:

Soluble and Reverted Phosphoric Acid	10.34	per cent.
Insoluble Phosphoric Acid	1.74	"
Diatomaceous Silicic Acid	13.07	"
Potash	2.80	"

The value of one ton of 2,000 pounds of this Fertilizer is as follows:

206.8 lbs. of Soluble and Reverted Phosphoric Acid,	@10 cts.		$20.68
34.8 lbs. of Insoluble " "	@ 4 cts.		1.39
261.4 lbs. of Diatomaceous Silicic Acid,	@ 5 cts.		13.07
56.0 lbs. of Potash,	@ 7 cts.		3.92
			$39.06

Yours truly, **F. A. GENTH.**

We make separate and distinct compounds for Tobacco, Truck, Cereals and Cotton, based on the analysis of each plant, and have the exclusive right to use

VEGETABLE SILICA,

Of which Prof. F. A. Genth, of the University of Pennsylvania, says: "It is well known that Silica in such a condition has been the great lack of all fertilizers in the market. Since a long time I have been an advocate of the introduction of available Silica into artificial manures.

With your Fertilizer, you furnish the farmer with the most complete manure, containing all the elements, except those contained in the atmosphere, which are necessary for the full development and increase of grain, in wheat, corn, rye, oats, &c., and all crops which require Silica for their growth. Yours, truly, F. A. GENTH.

We solicit a trial with any other Fertilizer sold or used.

SEND FOR CIRCULARS.

THE POPPLEIN SILICATED PHOSPHATE COMPANY,

fe-3t *99 Smith's Wharf, Baltimore, Md.*

J. H. G. SCHIMPF,

MARBLE WORKS,

127 Lexington Street, between Howard Street and Park Avenue, Baltimore. Italian and American Marble, Monuments, Tombs, Headstones, Monumental Figures, Garden Statuary, Vases, Baptismal Fonts, constantly on hand.

2,500,000 *Strawberry, Raspberry, Blackberry, Currants, Grapes, Asparagus Roots, Peach Trees,* etc. **100 SELECTED VARIETIES.** *Great American Strawberries.* Largest and best. Berries 2 oz. each, 9 in. around. By mail, **10** for **$1**; **100** for **$5**; **1,000** for **$40.** *Wilson Albany, Chas. Downing, Monarch of West, Kentucky, Green Prolific,* **$2** per **1,000**; *Capt. Jack, Cumberland Triumph, Sterling Jocunda,* **$5** per **1,000. ALL PURE.** Catalogue free. Cut this out. JOHN S. COLLINS, Moorestown, New Jersey.

$50 Will Buy a Reliable

HAY OR CATTLE SCALE!

JESSE MARDEN, Southern Scale Factory,

55 S. Charles St., Baltimore.

Scales of every description of our own make always on hand.

My annual Catalogue of Vegetable and Flower Seed for 1878, rich in engravings, will be sent FREE, to all who apply. Customers of last season need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms.—*Printed directions for cultivation on each package.* All seed *warranted to be both fresh and true to name;* so far, that should it prove otherwise I will refill the order gratis. **New Vegetables a Specialty.** As the original introducer of the Hubbard Squash, Phinney's Melon, Marblehead Cabbages, Mexican Corn, I offer several new vegetables this season, and invite the patronage of *all who are anxious to have their seed direct from the grower, fresh, true, and of the very best strain.*

JAMES J. H. GREGORY, Marblehead, Mass.

GILPIN'S VEGETABLE LIVER PILLS

Are prepared, with great care, from medical plants, are *coated with sugar* that they may be taken by the smallest child and upon the most delicate stomach; are intended especially to act upon the Liver—thereby relieving all such diseases as COSTIVENESS, HEADACHE, PARALYSIS, DYSPEPSIA, COLDS, JAUNDICE, and all diseases of a Bilious origin. No better evidence can be offered in favor of these Pills than the very fact that where their ingredients are known to family physicians, they are using them in their private practice. We append the following from one of our most prominent physicians:

OAKLAND, June 28, 1859.

DR. GILPIN—After carefully examining the formula of your Sugar-Coated Pills, I feel it but justice to say, that the combination is certainly perfect, and comprises the only remedies I ever believed were the proper ones to be used in diseases of a bilious origin. I shall take pleasure in recommending them not only to my patients, but the entire medical profession. Yours truly, J. M. WISTAR, M. D.

From one of the leading retail druggists of West Virginia:

WESTON, W. VA., June 18, 1869.

MESSRS. CANBY, GILPIN & CO.—Gents: Please send by express twelve dozen Gilpin's Vegetable Liver Pills. I have the most flattering accounts from all who have used them, and believe the day is not far distant when they will supersede all others. Yours, F. M. CHALFANT.

We could fill several pages with certificates, &c., from prominent men throughout the country, but prefer to let the Pills in the future, as they have in the past, rest entirely on their own merit—knowing that wherever they are known their use will pass down from generation to generation.

GILPIN'S VEGETABLE LIVER PILLS are sold by all respectable Druggists and Country Storekeepers throughout the United States and Canadas.

Principal Depot, CANBY, GILPIN & CO., Baltimore.

NOAH WALKER & CO.

THE

CELEBRATED CLOTHIERS

OF BALTIMORE, MD.

Announce the introduction of a plan of ordering

CLOTHING AND UNDERWEAR BY LETTER,

to which they call your special attention. They will send, on application, their improved and accurate RULES FOR SELF-MEASUREMENT, and a full line of samples from their immense stock of

Cloths, Cassimeres, Coatings, Shirtings, &c., &c.

A large and well-assorted stock of READY-MADE CLOTHING always on hand, together with a full line of FURNISHING GOODS.

NOAH WALKER & CO.

Manufacturers and Dealers in Men's and Boys' Clothing and Furnishing Goods, either Ready-Made or Made to Order.

Nos. 165 and 167 W. BALTIMORE STREET, Baltimore, Md.

CRIFFITH & TURNER,

Agricultural Implement and Seed Warerooms

41 & 43 N. PACA STREET, BALTIMORE, MD.

Have now open a Choice Selection of **Fresh Garden and Field Seeds,**

AND IMPROVED LABOR-SAVING MACHINERY.

GENERAL AGENTS OF THE

HAGERSTOWN

WHEEL

Horse Rake

WE NAME IN PART:

Portable Steam Engines, Railway and Sweep Horse Powers, Threshers and Separators, Champion Rye Threshers, Clover Hullers, Mowing and Reaping Machines, Hay Tedders.

FOUST'S HAY LOADER, which takes the Hay from the winrow and delivers it on the wagon. FITZHUGH'S HAY ELEVATOR AND DOUBLE HARPOON FORK, for unloading Hay and delivering it in any part of the mow. FARM AND ROAD WAGONS. The MALTA SHOVEL PLOWS and WALKING AND RIDING CULTIVATORS. The Planet Combined Drill and Wheel Hoe, for sowing all kinds of Garden Seeds and for cultivating the plants. The Hagerstown Grain and Fertilizer Drill. Broadcasting Machines and Lime Spreaders. The Hagerstown Fodder Dissicator. The Fountain Pump for extinguishing fires, washing windows, watering gardens, destroying bugs on vines, &c. Cahoon s Grass-Seed Sowers. The Philadelphia Lawn Mower. Tree Pruners and Pruning Shears Patent Steel Barb Wire Fencing; never rusts, stains or decays; a complete barrier to the most unruly stock. Stump Pullers, Feed Cutters, Corn Shellers, Corn and Cob Crushers, Chopping Mills, Cider Mills and Presses, &c., &c.

Machinery of all kinds repaired and built to order. SEND FOR DESCRIPTIVE CIRCULARS.

A. BRACKENRIDGE,

Wholesale and Retail Dealer in

PLANTS, FLOWERS, &c.

Rosebank Nurseries,

GOVANSTOWN, MD.

Persons desiring to buy in quantity would do well to correspond with us before purchasing elsewhere. Our facilities are unsurpassed. Having nine large houses fully stocked, we are able to compete with the leading Florists north. Our plants are in fine order, and guaranteed to give entire satisfaction.

New Geraniums, Roses, Coleus, Hydrangeas, Pelargoniums, &c.

We were awarded thirteen first prizes for our plants by the Maryland Horticultural Society during 1877.

SEND FOR WHOLESALE AND DESCRIPTIVE CATALOGUE—FREE.

NEW & CHOICE FLOWER SEEDS,

WARRANTED AS VICK'S,

And Imported Novelties of the Season,

Including PETUNIAS and others, besides a large collection of Greenhouse Plants, Bedding Plants, &c., at a low price—wishing to dispose of the general collection.

JOHN FEAST, Florist,

295 Lexington Street, Baltimore.

BERGMAN MN'F'G CO.

Manufacturers and Dealers in

HARNESS, COLLARS, SADDLES,

Whips, Horse Robes and Blankets, Brushes, &c.

367 W. BALTIMORE STREET,

Opposite Eutaw House, BALTIMORE.

Low Prices. **Punctuality.**

BONNETT BROS.

Wholesale and Retail Dealers in

Hardware, Iron, Steel, Axles and Springs,

Sleigh Baskets, Runners, Horse Blankets, &c.

No. 159 FORREST STREET,

Opposite Streett's Farmers' Hotel. Rear entrance from Eagle Hotel yard,

J. A. BONNETT,
F. M. BONNETT.

BALTIMORE, MD.

COULSON'S

Pure Ground Bone,

STRICTLY PURE

BONE MEAL.

☞Liberal Inducements offered Farmers and others at the Mill, Jenkins Lane, North of Greenmount Cemetery.

EDW'D L. COULSON,

Office, 32 Light Street.

G. O. BROWN,

MONTVUE POULTRY YARDS
BROOKLANDVILLE MD.

Proprietor.

Now is the Time to Secure Good Breeding Stock Cheap.

☞SURPLUS BIRDS MUST BE SOLD.☜

SPLENDID ROUEN DUCKS and PEKINS at half former prices. Choice BRAHMAS, COCHINS, LEGHORNS, HOUDANS at reasonable prices. GAMES—fine and at low prices.
Send stamp for particulars, catalogues, &c. ☞Eggs in season from any of my breeds.

JOHN C. DURBOROW

No. 35 LIGHT STREET, BALTIMORE, MD.

GENERAL AGENT FOR

BUFFALO PITTS SEPARATORS

AND DEALER IN

Agricultural Implements of the most improved kinds: **Farm Grist Mills, Corn and Cob Crushers, Feed Cutters, Corn Shellers, &c.** Also **Fertilizers and Seeds.** ☞Send for Circular and Price-List to

JOHN C. DURBOROW,
35 Light Street, Baltimore, Md.

ja-

—1878.—

Rosebank Nurseries,

GOVANSTOWN, BALTIMORE COUNTY, MD.

ORNAMENTAL AND FRUIT TREES, FLOWERING SHRUBS, AND HERBACEOUS PLANTS.

We invite the attention of the public to our select stock of the following: **STANDARD** and **DWARF PEARS**,—2, 3 and 4 years old. **APPLES**—Standard and Dwarf. **CHERRIES**—Standard and Dwarf. **APRICOTS, CRAB APPLES, MULBERRIES, GRAPE VINES**, of the most popular kinds, together with other small fruits.

Our **COLLECTIONS** of **ORNAMENTAL** Trees and Shrubs are large, and embrace most of the rarest sorts.

ROSES on their own roots, with the newest of **BEDDING-OUT** plants by the dozen or 1,000, for which we have issued a separate Catalogue.

☞**SPECIAL.**—60,000 one and two-year old OSAGE ORANGE plants for hedges.

CATALOGUES FORWARDED ON APPLICATION. ORDERS BY MAIL PROMPTLY ATTENDED TO. ALL GOODS DELIVERED IN BALTIMORE FREE OF CHARGE.

W. D. BRACKENRIDGE.

Clairmont and Furley Hall Nursery.

ESTABLISHED 1828.

The largest stock and greatest variety of fruit and ornamental trees, foreign and domestic, to be found in the United States,—comprising apple, peach and pear trees, (standard and dwarf) evergreen and shade trees; all varieties of grape vines, currant, gooseberry, and blackberry bushes, strawberry plants, etc., etc.

TERMS TO SUIT THE TIMES.

Nursery is located on the Bel-Air Road, Baltimore County, and can be reached by way of Gay street.

WM. CORSE & SONS,
P. O. Box 248, BALTIMORE, MD.

ja-6m

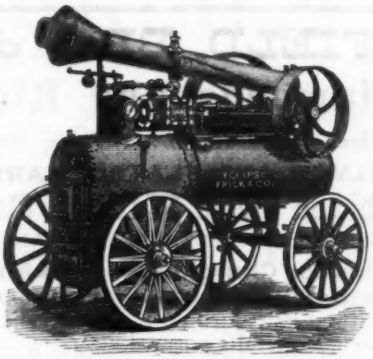
BUCKEYE MOWER and REAPER,

☞THE SIMPLEST, BEST MADE AND LIGHTEST DRAFT MACHINE ON THE MARKET. ONE-FOURTH OF THE MOWERS AND REAPERS MADE IN AMERICA ARE "BUCKEYE." THE "BUCKEYE" IS A FRONT-CUT MACHINE.

SWEEPSTAKES THRESHER AND CLEANER.

The most popular Thresher with Threshmen and Farmers. It never fails to do good work. A Threshman who buys a Sweepstake is sure of getting work for it, when those having other Threshers cannot.

ECLIPSE Agricultural ENGINE.



Best, Cheapest, and most Economical Engine in the Market.

Awarded first Premium at Cincinnati Exposition, 1874; Maryland State Agricultural Society, 1874; Silver Medal at Virginia State Agricultural Society, 1874; North Carolina State Fair, 1875, and others. Thoroughly warranted in every respect, and especially adapted to wants of Treshmen, Sawing Lumber, Farm Work, &c.

Circular Saw Mills, Wheel Horse Rake, Nonpareil Corn and Cob Mills, Perry's New York Hay Tedder, Mill Stones, Bolting Cloths, Eureka and other Smut Machines, Belting, Spindles, Mill Picks, Portable Farm and Grist Mills, Bickford & Huffman Grain and Fertilizer Drill, Birdsill Clover Huller, Hurdle Cotton Gin, &c.

THE WATT PLOW
UNEQUALLED IN EVERY ESSENTIAL
OF STRENGHT, DURABILITY,
PERFECT WORK,
LIGHT DRAUGHT,
FREEDOM FROM
CHOKING
MEETS ALL THE WANTS OF THE PLANTER FOR THE CULTIVATION OF AN ENTIRE CROP.
WE SOLICIT A TRIAL AND WARRANT EVERY PLOW
SEND FOR CATALOGUE AND PRICE-LIST.

Cucumber-Wood Pumps

WITH PATENT CAST-IRON CYLINDER,

Warranted not to cut out like the **GALVANIZED IRON-LINED CYLINDERS**, or scale off as will the **PORCELAIN-LINED CYLINDERS.**

Every Pump Provided with Patent Anti-Freezing Attachment.

THE BEST IS THE CHEAPEST.

☞**Prices and Descriptive Circulars Furnished on Application, and Correspondence solicited from all wanting anything in my line.**

JOSHUA THOMAS, 53 Light St., Baltimore.

CHESTNUT HILL GREENHOUSES,

Waverley, Baltimore Co., Md.

W. F. MASSEY & CO. are offering, as usual, a full stock of ROSES and BEDDING PLANTS at low prices, for Spring trade. Also, all the novelties of the season, including the new Carnation "PETER HENDERSON."

CUT FLOWERS and FLORAL DESIGNS forwarded by express at short notice.

City Depot—238 Madison Avenue

BALTIMORE.

CANFIELD, BRO. & CO.

Watches, Diamonds and Rich Jewelry,

Corner Baltimore and Charles Streets, Baltimore, Md.

SILVER AND PLATED WARE,

American, English and Swiss Watches, Clocks and Bronzes,

FANS, OPERA GLASSES, SPECTACLES and FANCY GOODS, &c.

Communion Services for Churches. **AMERICAN CLOCKS.**

☞ **HOLIDAY GOODS A SPECIALTY.**

Premiums for Agricultural Fairs furnished. Badges and Medals for Colleges and Schools a specialty. Watches carefully repaired.

WE WILL PAY

The highest market price for all of the following articles, or we will sell them for you on five (5) per cent. commission: **BUTTER, CHEESE, EGGS, POULTRY, LARD, TALLOW, FEATHERS, POTATOES, APPLES, GRAIN, FLOUR, FEED, FUR, HIDES, WOOL, PEANUTS, BROOM CORN, DRIED FRUIT, HAY, HOPS, &c., &c.**

LIBERAL CASH ADVANCES MADE

On large consignments of Staple Articles. Farmers, Shippers and Dealers in General Merchandise should write for Reference, Price-Current and Stencil, &c. When writing us state whether you wish to ship on consignment or sell. If you wish to sell, name the article, amount of each, and your VERY LOWEST PRICE for same, delivered F. O. B. (free on board cars) at your nearest shipping point. Also, if possible, send sample by mail; if too bulky, by freight. Address

HULL & SCOTNEY,

GENERAL COMMISSION and SHIPPING MERCHANTS,

221 & 346 N. Water Street, Philadelphia.

S. H. SLIFER. E. M. WOODWARD.

S. H. SLIFER & CO.

DEALERS IN

AGRICULTURAL IMPLEMENTS,

FIELD, VEGETABLE SEEDS,

AND HARDWARE,

Send for Circulars. 166 N. GAY STREET, BALTIMORE, MD.

CHEMICAL MANURES.

Agricultural Lectures

DELIVERED AT

The EXPERIMENTAL FARM

AT

VINCENNES, in 1867,

BY GEORGE VILLE.

Translated by Miss E. L. Howard, of Georgia.

Copies of this valuable work may be had at the *Office of the American Farmer*, or will be sent by mail on receipt of the price—50 cents.

SOUTHERN POULTRY JOURNAL,
A Large Beautifully Illustrated

MONTHLY MAGAZINE,

DEVOTED TO

POULTRY, PET STOCK AND GENERAL SPORTING MATTERS.

Each number contains information useful to those who desire to keep Poultry, and any variety of Pet Stock for pleasure or profit. Also those who are interested in the pleasures of the Forest, Field and Stream, will find it full of interesting matter. It has a wide-spread circulation in all sections of the United States, especially in the South and West, thus making it one of the best advertising mediums in the country for breeders of Poultry, Pet Stock, and dealers in Sportsmen's goods. Only $2 00 per year in advance; specimen copies 20 cents. Address, E. B. HARTWELL, Publisher, P. O. Box 69, LOUISVILLE, KY.

GOLD. Great chance to make money. If you can't get gold you can get greenbacks. We need a person in every town to take subscriptions for the largest, cheapest and best Illustrated family publication in the world. Any one can become a successful agent. The most elegant works of art given free to subscribers. The price is so low that almost everybody subscribes. One agent reports making over $150 in a week. A lady agent reports taking over 400 subscribers in ten days. All who engage make money fast. You can devote all your time to the business, or only your spare time. You need not be away from home over night. You can do it as well as others. Full particulars, directions and terms free. Elegant and expensive Outfit free. If you want profitable work send us your address at once. It costs nothing to try the business. No one who engages fails to make great pay. Address "The People's Journal," Portland, Maine.

PRATT'S ASTRAL OIL

WILL NOT EXPLODE.

Wholesale and Retail.

LAMPS OF EVERY DESCRIPTION,

For Sale by W & H. SPILCKER,

Agents for Chas. Pratt & Co. New York. 136 Baltimore St.

o-4m

BERKSHIRE PIGS.

The subscriber offers for sale a select lot of Berkshires of various ages, bred from stock imported by Hon. M. H. Cochran of Canada, T. S. Cooper and Chas. B. Moore of Pennsylvania, and other well-known breeders.

Animals warranted true to description and pedigree, which will be furnished on application. Orders solicited and satisfaction guaranteed. Prices to suit the times.

THOS. J. LEA,

Brighton P. O., Montgomery Co., Md.

PENNSYLVANIA ROUTE,

FORMED BY THE

NORTHERN CENTRAL

AND

PENNSYLVANIA RAILROADS

ON THE

West, Northwest and Southwest,

To PITTSBURG, CINCINNATI,

LOUISVILLE, INDIANAPOLIS,

CHICAGO, ST. LOUIS,

AND ALL OTHER

PROMINENT POINTS.

BALTIMORE & POTOMAC

AND

Alexandria & Fredericksburg Railways

ON THE SOUTH TO

Washington, Richmond,

AND ALL POINTS IN THE

Atlantic and Gulf States.

THE ONLY

ALL RAIL LINE

WITH NO

OMNIBUS TRANSFER AT WASHINGTON.

NORTHERN CENTRAL

AND

PHILADELPHIA and ERIE RAILWAYS

ON THE NORTH TO

HARRISBURG, WILLIAMSPORT, ELMIRA, WATKINS GLEN, ROCHESTER, ERIE, BUFFALO, NIAGARA FALLS.

☞ Baggage called for and checked at Hotels and private residences through to destination. Sleeping and Parlor Car accommodations secured.

Through tickets sold and information given at company's office,

N. E. Corner Baltimore and Calvert Streets,

At Depot N. C. Railway,

UNION DEPOT, CHARLES STREET STATION,

And PENNSYLVANIA AVENUE STATION.

FRANK THOMSON, General Manager.

L. P. FARMER, Gen'l Passenger Ag't, Penna. and N. C R. R.

GRANGERS' BOOT AND SHOE HOUSE.

The Old-Established C. O. D. House of Baltimore.

Thanking our customers for the patronage of past years, we take pleasure in presenting them and the general public with our List (for the winter and spring of 1878) of such goods as are in constant use, at the lowest jobbing prices. From our past experience, from our extra facilities, and from the immense and growing magnitude of our sales, we are now enabled to offer in this List *the greatest bargains in Boots and Shoes ever offered. Our customers number thousands from all parts of the United States, who have bought and used our goods for years.*

We sell Goods direct to the people at jobbing prices, cheaper than the country stores buy them wholesale on the credit system, and save all the profit of the Middle-men.

Buy your Goods from first hands, the same as dealers do, and save what they add to the prices to pay their expenses, and to give them a profit.

We do a Jobbing Trade, selling Goods at the lowest wholesale prices, only we sell direct to the people in clubs or otherwise, instead of to dealers.

WHY, AND HOW WE SELL SO CHEAP.

We have pursued the C. O. D. plan for years; we have built up a good paying trade; it is popular with our customers. We know that by selling Goods on this plan we give our customers better bargains than on the old plan of credit. By giving better bargains we increase our trade.

EXCLUSIVELY FOR CASH.

We have buyers in New York, Philadelphia and Boston, who watch the market, wait for bargains, watch the bankrupt sales, the trade sales, and in the ways and places known to experienced buyers, and choose Goods for cash at the lowest figures possible. Our customers are not asked to pay for goods before they get them. The fact of being established so long, and selling such large amounts of Goods, gives us all the advantages that can accrue from such a plan; and we can now afford to sell much cheaper than we did at first.

☞ The C. O. D. plan gives our customers all the benefits to be derived from **CO-OPERATION.**

With the large sales that we make, we lower our prices of Goods to our patrons, and are simply taking advantage of available and legitimate avenues of trade to increase our business.

We are the exclusive Agents for

EDWIN C. BURT'S NEW YORK FINE SHOES FOR LADIES, MISSES AND GENTLEMEN.

GENTLEMEN'S DEPARTMENT.

Gents' Buff Pegged Shoes	$1 50	Gents' French Calf Hand Stitched Boots, Extra Quality	5 00
Gents' Buff Pegged Prince Alberts	1 75	Gents' Buff Stitched Boots, Extra Quality	3 75
Gents' Calf Sewed Prince Alberts	2 25	Gents' Kip	2 75
Gents' French Calf English Ties, Sewed	2 75	Gents' Kip, Extra Quality	3 50
Gents' Lasting Gaiters	1 50	Gents' Extra Quality Water Proof Boots	3 75
Gents' Buff Pegged Congress	1 50	Gents' Heavy Plough Shoes	1 65@ 1 75
Gents' Buff Sewed Congress	2 00	Gents' Extra Quality Plough Shoes	1 85
Gents' Buff Plain Congress	1 60	Gents' Heavy Pegged Balmorals	1 40
Gents' Calf Boxed Toe Sewed Congress Gaiters	2 00	Gents' Heavy Pegged Double Sole Balmorals	1 65
Gents' Fine Calf Sewed Congress Gaiters	2 25	Gents' Kip Boots	3 25
Gents' Calf Stitched Box Toe Gaiters	2 75	Gents' Extra Quality Kip Boots	4 00
Gents' French Hand Stitched Congress	3 75	Gents' Long Legged Kip Boots	3 75
Gents' Calf Congress Gaiters, Pegged	1 75	Gents' Long Legged Kip Boots, Extra Quality	4 00
Gents' Buff Pegged Boots	2 75	Russia Leather Water Proof Boots	3 50
Gents' Calf Pegged Boots, Extra Quality	3 50	Water-Proof Hunting Boots	4 00
Gents' Calf Hand Sewed Boots	4 25	Gents' Split Leather Boots	2 50
Gents' Prime Stitched Calf Boots	4 50	Gents' Extra Heavy Split Leather Boot	3 00
Gents' Calf Pegged Boots, Extra Quality	3 50		

LADIES' DEPARTMENT.

Ladies' Lasting Congress Gaiters	$1 00	Ladies' French Leather Button, Extra Quality	2 25
Ladies' Lasting Balmoral Gaiters	1 00	Ladies' French Kid Button Boots	2 75
Ladies' Lasting Kid Foxed Gaiters	1 25	Ladies' Kid Lace Balmorals	2 00
Ladies' Lasting Brush Kid Foxed Gaiters	1 50	Ladies' Morocco Balmorals, high cut	1 50
Ladies' Lasting Kid Foxed, Extra Quality	2 00	Ladies' Morocco Balmorals, high cut, Extra Qual.	1 75
Ladies' Lasting Slippers	60	Ladies' Morocco Balmorals, all styles	1 25
Ladies' Lasting Buskins Slippers	75	Ladies' Calf Pegged High Cut Balmorals	1 15
Ladies' Kid Heeled Slippers	75	Ladies' Calf Pegged High Cut, Extra Quality	1 37
Ladies' Kid Croquet Slippers	1 15	Ladies' Calf Sewed High Cut Balmorals	1 75
Ladies' Kid Newport Ties, Extra Quality	1 50	Ladies' Calf Sewed Extra Quality Balmorals	2 00
Ladies' Lasting Button Boots, (plain)	1 50	Ladies' Goat Leather Balmorals, Heavy	1 25
Ladies' Lasting Button Boots, Extra Fine	2 00	Ladies' Buff Pegged Shoes	1 00
Ladies' Lasting Kid Foxed Button	1 50	Ladies' Buff Pegged, Extra Quality	1 25
Ladies' Lasting Kid Foxed Button, Extra Fine	2 25	Ladies' Heavy Split Balmorals	90
Ladies' French Leather Button Boots	1 75		

MISSES' AND BOY'S DEPARTMENT.

Misses' Lasting Balmorals, Plain	75@1 00	Misses' Kid Foxed Button	1 50@2 00
Misses' Lasting Balmorals, Extra Quality	1 15@1 25	Misses' Calf Pegged Balmorals	1 00@1 25
Misses' Lasting Kid Foxed Balmorals	1 25@1 50	Misses' Calf Sewed Balmorals	1 35@1 50
Misses' Fine Morocco Balmorals	1 25@1 50	Ladies' and Misses' White Kid Boots, Slippers and Fancy Shoes of all Styles on hand.	
Misses' Fine Kid Balmorals	1 37@1 50		
Boy's Calf Pegged and Sewed Balmorals	$1 25@1 50	Boy's Heavy Kip Boots	1 50@1 75
Boy's Calf Sewed Congress Gaiters	1 50@1 75	Boy's Kip Boots, Extra Quality	2 00@2 25
Boy's Calf Pegged Congress	1 25@1 40	Boy's Fine Pegged Boots	1 75@2 00

We allow 12 per cent. discount to Patrons of Husbandry. Also an additional percentage on each dollar for the person making up the Club.

We can now also send by mail single pairs of shoes or packages to any address, at 18 cents per pair to any part of the United States. All orders should be accompanied with the money, Post-Office Money Order, or in Registered Letters, or C. O. D. by Express.

We guarantee to give satisfaction, and anything purchased of our house which may not suit after purchase, we will exchange or refund the money within six months after purchase. ☞ Send Stamp for Printed Catalogue.

The Customer's Confidence is Never Abused.

Weinberger's C. O. D. Shoe House,

fe **81 N. EUTAW STREET, BALTIMORE.** 1y

Chesapeake Chemical Works.

OIL VITRIOL.

MANUFACTURERS AND MANIPULATORS OF PHOSPHATES

ON ORDERS AND FORMULAS FURNISHED BY

OUR FRIENDS.

Having completed extensive improvements and additions to our Works, giving us increased facilities, we are now prepared to execute orders with greater promptness, and deliver goods in much better mechanical condition than heretofore.

We offer to the Trade the following Goods, all of which are absolutely Free from Adulteration:

DISSOLVED GROUND BONE,

Containing 3 per cent. of Ammonia.

DISSOLVED SOUTH AMERICAN BONE ASH.

Containing 40 to 44 per cent. Soluble Bone Phosphate.

DISSOLVED SOUTH CAROLINA PHOSPHATE.

Containing 27 to 30 per cent. Soluble Bone Phosphate.

To meet the demand for a high-grade Fertilizer, we are offering **SLINGLUFF'S NATIVE SUPER-PHOSPHATE**—prepared entirely from Animal Bone—highly ammoniated.

Also, **SLINGLUFF'S No. 1 AMMONIATED SUPER-PHOSPHATE.** This we can confidently recommend as one of the best fertilizers sold in the market at a low price.

SLINGLUFF & CO.

OFFICE, 155 W. Fayette Street. **WORKS, Foot of Leadenhall St.**

BALTIMORE.

[Je-1y]

R. W. L. RASIN & CO.

Chemical Fertilizer Manufacturers,

32 SOUTH ST., BALTIMORE,

Are now preparing the following POPULAR BRANDS OF FERTILIZERS for SPRING CROPS, containing all the essential elements necessary to the growth of that important crop.

SOLUBLE SEA ISLAND GUANO,

Well-known and of undoubted excellence.

EMPIRE GUANO,

A high-grade Fertilizer of known merit.

Ammoniated Alkaline Phosphate,

An article specially prepared for Tobacco, and sold on satisfactory terms to Grangers. Endorsed by the Patrons, who have used it for the past four years. For sale by Grange Agents at RICHMOND, NORFOLK, PETERSBURG, ALEXANDRIA, and BALTIMORE.

Raw, Steamed and Dissolved Bones, Potash Salts,

IN STORE AND FOR SALE.

☞ SPECIAL COMPOUNDS PREPARED ON ORDERS.

R. W. L. RASIN & CO.

S. W. Cor. South and Water Sts.,

BALTIMORE, MD.

AGRICULTURAL CHEMICALS

FOR MAKING YOUR OWN

FERTILIZERS.

We import or manufacture a full line of the above goods, such as

Super-Phosphate of Lime, Raw and Dissolved Bone, Potash Salts, Sulphate of Ammonia, Nitrate Soda, Sulphate Magnesia, &c., &c.

We are also authorized to compound the celebrated

STOCKBRIDGE MANURES.

☞SEND FOR PAMPHLETS AND PRICES.☜

WM. DAVISON & CO.

104 West Lombard Street.

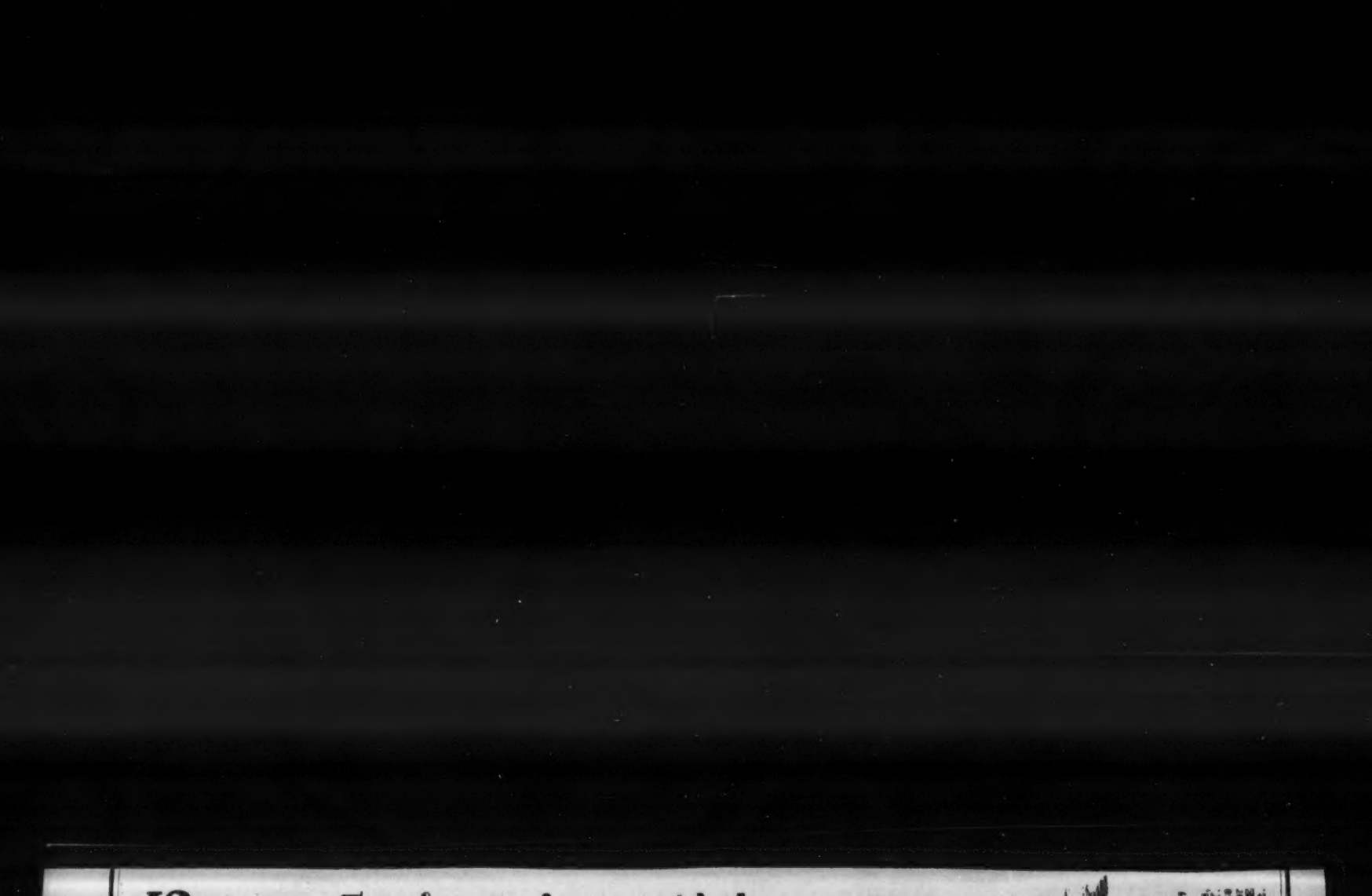
GEORGE PAGE & CO.

No. 5 N. SCHROEDER STREET, BALTIMORE, MD.

Manufacturers of PATENT PORTABLE STEAM ENGINES,

The Boilers the Safest and Most Economical of Fuel Made.

Stationary Steam Engines and Boilers, Patent Portable Circular Saw Mills, Sash, Muley and Gang Saw Mills, Flour Mill Machinery, Grist Mills, Shafting, Pulleys, &c., &c. ☞AGRICULTURAL ENGINES A SPECIALTY. Lath, Shingle and Barrel Machinery, Leffel Turbine Water Wheels, Wood Working Machinery, all kinds; Tanite Emery Wheels and Grinders, Circular Saws, Saw Gummers and Tools and Mill Supplies Generally. Agents for **NICOLS, SHEPHARD & CO.'S VIBRATOR THRESHING MACHINES. ☞COMPLETE THRESHING OUTFITS FURNISHED.** ☞Send for Descriptive Catalogue and Reduced Price-List.



THE

AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

VOL. VII.—NO. 5.] MAY, 1878. [NEW SERIES.

How to Cultivate and Manage a Farm in Eastern Virginia.

Messrs. Editors American Farmer:

As there are many Northerners settling in Eastern Virginia at present, it has occurred to the writer that he might effect some good by publishing, for the guidance of such, a practical plan of cultivation and management suited to this section, and more particularly so for the South-side, so called. Some of these Northern and English settlers coming here heretofore have committed a great error in attempting to practice systems here not suited to our soil and climate.

They come here underrating the capacities and intelligence of our people, and, at the same time, prepossessed and wedded to certain systems, which, though perhaps well adapted to other localities, are not at all suited to this region. Almost every attempt that has been made to introduce their new systems here has failed, and much mischief has resulted from it. It would be a great deal better for these new settlers if they would consult some of our best farmers here, and learn something about our soil and climate, and those productions which are best suited to them. Doubtless a good practical farmer from the North would be able to improve and modify our systems, and in return might give our people many valuable lessons in farm management.

The great diversity of soil, climate and productions, prevailing over our wide domain, render it impossible to adopt any general system of farm management that can be practically applied to each section or locality. Even here in Virginia this diversity is so marked that each section of the State requires a distinct system. Here in Virginia we have the Tidewater, the Piedmont, "The Valley" and the South-side, each characterized by its own peculiarity of soil, climate and production.

The "South-side" or Tobacco Region.

The object of this paper is to suggest a system of management and cultivation applicable to the South-side,—it being the great tobacco-growing region of the State.

In laying down a system of farm management for any section, regard must be had alike to the character of the soil, its productions and its capacities; and even the varying conditions of individual farms may necessitate decided modifications in every general system.

The general character of the soils of "South-side" are these:

They are mostly sedentary soils, having been originally formed by the disintegration of certain rocks or minerals, which constitute their basis. The three predominating minerals of this region are feldspar, hornblende and garnet or iron rock. The most prevalent mineral here and the one that imparts to our soils their tobacco-growing capacity, is feldspar. The leading element of feldspar and the one that gives value to it as a soil basis, is potash, the percentage of which ranges from 10 to 30 in the different varieties.

These soils are further characterized by being mostly of a dark gray color, duly intermixed with sand, and resting upon a red clay subsoil. They are generally thin soils, as all sedentary soils are, but are exceedingly kind and productive. And having a mineral basis, and being abundantly supplied with all the mineral elements of vegetation, they are easily improved; but as easily impoverished by excessive and improvident cultivation. These soils possess in a wonderful degree the clover-bearing capacities, and are susceptible of being brought up to as high a degree of productiveness as any lands whatever.

From the above remarks touching the character of our soils, it must not be inferred that they are all sedentary soils. On the streams which penetrate this region in every direction (for there is no country under the sun better watered than this) there are to be found very considerable quantities of alluvial soils, most of which are rich and productive in an eminent degree.

In consequence of these peculiarities these upland soils will not bear that constant and persistent cultivation of which the rich alluvial lands of the West are capable.

It is necessary that they should be cultivated at longer intervals, and some regular ameliorating system is necessary to keep them up and prevent exhaustion. This necessitates larger farms and a more extended area of cultivation. The prevailing propensity of Virginians for large farms

is admissible and even necessary to some extent, as these lands are low-priced and easily cultivated. A Northerner coming to Eastern Virginia should purchase from two to four times as much land here as he would purchase at the North; and this he can well afford to do when he can get very good land here at from $5 to $10 per acre.

To commence the cultivation of a farm of say 250 acres (an average size) "*de novo*," about one-fifth—say 50 acres—should be allotted to wood and timber; 25 acres to pasturage adjoining to and connected, if practicable, with the timber land; 10 acres for a garden and orchard, and the balance to be put in cultivation. In the location of the buildings, regard should be had to good taste, convenience and economy.

The buildings should be located as near the centre of the farm as possible, and convenient to wood and water.

It is exceedingly convenient and desirable to have on every farm some two or three small lots well enclosed, and convenient to the homestead, to be kept in grass for hay, and on which the teams may be turned when not at work.

Our climate is most admirably adapted to sheep husbandry, and there should be a flock of sheep kept on every farm. In order to prevent them from being stolen or killed by dogs, they should be penned at night, and one or more of these lots could be used for that purpose. On one of them there should be erected warm and comfortable shelters, where the sheep should be penned and fed during winter; one or more of the other lots to be used for the same purpose during spring and summer.

These lots will thus be kept enriched by the droppings of the sheep, and will need no manuring.

In the spring the sheep should be taken from the winter lot, which should then be cultivated in beets, turnips, carrots, potatoes and other root crops, which will be needed for the feeding of the sheep and milch cows during winter.

During spring and summer, the sheep should be penned on one of the other lots, which will serve for that purpose, and as a grass lot alternately.

As before observed, touching the character of our soils, they are thin and easily run down, and a good rotation should be adopted in the start, and persistently kept up. In the adoption of a rotation, science comes to our aid, and distinctly lays down the right principles on which to base it.

The main agricultural plants are divided into three classes, viz: lime plants, potash plants and silica plants. The lime plants are clover, peas and tobacco. The potash plants are corn, beets, turnips and potatoes; and the silica plants are wheat, oats, barley and rye.

Now these different classes of plants extract from the soil different elements, and different quantities of the same elements. Thus wheat, besides the silica, required for the construction of its straw, makes preference of ammonia and phosphoric acid; whilst the turnip makes preference of potash and phosphoric acid. Tobacco, which is a lime plant, and corn, which is a potash plant, both require potash; but in unequal quantities,—corn taking 71 per cent. of the ash of the stalk, whilst tobacco takes up only 25 per cent.

Both wheat and tobacco require lime, but in very unequal quantities. Wheat only 6 per cent. of its ash, whilst tobacco requires from 25 to 43 per cent.

Now the principle to be carried out in a rotation of crops, is to have such a succession of these different classes of plants as to rest the soil, as it were, and save it from too great a drain upon any one element, and thus prevent exhaustion.

Thus to commence with a potash plant—say corn. This should be followed by a silica plant—say wheat, oats or rye; and then should be followed by a lime plant—clover or peas. A soil may be so constituted as to produce a very good yield of one crop, but a very poor one of another, by reason of its being deficient in some one element needed for one of them. A soil deficient in lime, but abounding in potash and phosphoric acid, will produce a good crop of turnips or potatoes, but a poor crop of tobacco.

A rotation should thus be based upon scientific principles, and not upon a mere divisional routine. It is a very easy matter to draw up a diagram upon paper, and have the different fields alloted out in uniform size and shape; but when one comes to locate them upon "terra-firma," it will be found to be exceedingly difficult if not impracticable. The objection to this kind of rotation is, that uniformity in the size of the fields as well as uniformity in the character of the soil, which are essential to success, can scarcely ever be attained. Then such a rotation will be constantly liable to accidents, which will cause a break in the rotation. For instance: the clover crop, which is the main element in any rotation, is very liable to fail; and when this happens, a break at once occurs. But with an intelligent apprehension of the principles underlying a rotation based upon science, the practical farmer will find no difficulty in making a practical application of its principles. Being bound down to no arbitrary routine, he will be left free to locate his crops where it best suits his condition and convenience,—only bearing in mind always the simple fact that the soil should not be cultivated too often in the same plant, but that the different classes of plants should substitute each other in regular succession.

The main staple crops cultivated here are corn, wheat, oats and tobacco,—wheat and tobacco being the principal market or money crops. Many attempts have been made to discontinue the cultivation of tobacco, and substitute something else; but almost every attempt in that direction has produced such a depletion of the pocket as to necessitate a speedy return to it.

Cultivation of Tobacco.

The fact is, tobacco is our main staple. Nature has made our climate and soil admirably adapted to its cultivation, and the conviction is now general that we cannot dispense with its cultivation. Whilst this is a fact, it must be admitted that we are making its cultivation unproductive by overproduction. How to reduce the cost of cultivation and make it pay better, are questions that the logic of low prices are forcing upon us with a potency that cannot be resisted. We make too much inferior tobacco, and the market is glutted with it. The remedy is to cultivate smaller crops;

to manure our lots heavily and cultivate them thoroughly; we should aim to make first-class Virginia tobacco, for which there is no competition! for it can be made no where else; but when we go into the markets with the lower grades, we are brought into competition with the whole outside world.

Since the introduction of commercial fertilizers into the cultivation of tobacco has become general, the area of cultivation has been very much extended.

In former times the tobacco crop was confined mainly to rich standing lots and new ground, and the domestic manures alone used. This was a fortunate thing, for it had the effect of restricting the crop, and thus preventing over-production; and it had the farther effect of keeping up the quality and character of our Virginia tobacco.

But, since the introduction of these commercial manures, our planters have fallen into the fatal error of cultivating a great deal of poor land in tobacco, relying upon the use of fertilizers to make the crop. This has proven to be a snare and delusion, for good tobacco cannot be made on poor land by the use of fertilizers alone. Almost all the tobacco made in this way is poor and nondescript; and it is this thing mainly that has glutted the markets of the world with inferior tobacco and brought about the present ruinous prices.

In view of these facts, let our planters mend their ways, and retrace their steps and fall back upon the safe old way of cultivating none but rich lands in tobacco, or those that are heavily manured.

On a farm of 250 acres, with a force of from 3 to 6 hands, from 10 to 12 acres would be a fair crop, the precise quantity to be determined in accordance with the means and capacities of each individual planter. Only no greater quantity of land should be cultivated than can be thoroughly enriched and well cultivated.

Time and space is not allowed me to give all the minor details of tobacco culture. I will merely say in general terms that the tobacco crop requires a great deal of labor and attention, the most important of which is needed in the curing and preparation for market; and every item thus applied judiciously pays well on the enhanced price which it is sure to bring.

For the housing and curing of a crop of these dimensions, there will be required about three tobacco-houses. Two of them should be built of logs and covered with slabs; for the best house in the world for the curing of tobacco is the log house with a slab roof. The other should be a framed house, with a stripping room and drying fixtures attached, and all under the same roof.

The key to the position of success in tobacco raising is to be found in being able to plant the crop early, and in order to do this you must have an abundance of plants and be sure to have them early; it is exceedingly difficult sometimes to secure this important requisite. The young plants require incessant nursing and attention, and these should not be relaxed until a good stand is secured. The early-planted crops always succeed best, whilst it is a rare thing to make a good crop from late planting.

Wheat, Corn and Oats.

To the wheat crop, the next in value and importance, the same general principles are applicable,—and that is, that no greater quantity of land should be put in cultivation than can be duly enriched, brought into a condition of fine tilth and seeded early.

Here in the tobacco-growing region, wheat and tobacco are natural auxiliaries. The main reliance for wheat here is the tobacco lot and clover fallow. The tobacco crop leaves the soil in the very best condition possible for wheat, which should always follow tobacco; the wheat to be invariably followed by clover.

There is one exceedingly important thing in wheat culture to which I would direct all wheat growers, and that is the importance of selecting good seed. By recent experiments made in England it has been proven that by a careful selection of seed for a series of years, the yield may be increased as much as 100 per cent.

The corn crop being the next that claims our attention, if indeed it be of secondary importance to any, I observe that on a farm of 250 acres from 30 to 50 acres may be assigned to the corn crop. In the preparation of the soil for corn, it should be broken deep or subsoiled in the start, and then thoroughly pulverized by repeated harrowings. This deep plowing or subsoiling is more particularly necessary where the crop is to be planted on high land.

Here on the "South-side," after having tried all the varied systems practiced in the cultivation of corn, we have settled down upon the ridged system as the one best suited to this region. Two good workings are all that are necessary. The first is done by running a turning one-horse plow close to the young plant and throwing the soil from it. It is then thinned out and weeded with the hoe. The second and last working is done by the use of the same plow, throwing the soil up to the plant and plowing out the row entire. This is all the work the corn crop usually gets here, and when it is well done it is sufficient.

The corn crop should be followed by oats, and, when practicable, this crop should be seeded in the fall with winter oats. If not, they should be seeded in the spring, along with clover,—using at the same time a little fertilizer with a view of securing a crop of clover. This is the surest plan that this writer has ever tried for the purpose of securing a stand of clover on poor land.

Where the corn land is in good heart and it be desirable to enlarge the wheat crop, it may be seeded in wheat,—using the fertilizers, however, freely.

The Grasses, &c.

Having disposed of the staple crops of this section, I will make brief mention of the incidental ones, and the first is grass.

South-side has not heretofore been regarded as particularly suited to grass, and it may not be practicable to make it profitable here as a market crop. Nevertheless, our soils are very well adapted to some of the grasses, such as clover, orchard grass, timothy and German millet; and sufficient quantities can and should be raised to meet our home wants. German millet when sown on a rich moist soil yields a heavy crop, and a few acres seeded in it will make an important addition to the stock of forage. As

before observed, we should have several grass lots convenient to the homestead—say one or two in clover, one in orchard grass and another in timothy. And then we should secure all the hay possible from the clover fields when the crop is sufficiently luxuriant to be cut for hay. In a word, our people should pay more attention to the grasses. Fodder-pulling is played out, and it is a poor reliance at best.

The climate and soil of South-side Virginia being well adapted to fruits and vegetables, every farm should have a good orchard and a good garden; but both of them will need due attention and labor in order to secure ample supplies of vegetables. The orchard should be well enclosed, and all kind of stock kept out of it save the hog; and it should be regularly manured and cultivated to keep up its bearing capacities. That prince of vegetables, the sweet potato, flourishes here in all of its glory, and the Southern farmer who fails to secure an abundant supply of them should be banished this goodly land until he learns how to appreciate this best of all vegetables.

About four good work horses or mules and a yoke of oxen will constitute a sufficient team on a farm of 250 acres; but an extra horse should be always kept to meet contingencies.

Comfortable and convenient stables should be provided for the teams, and care taken always to keep them supplied with crude material, such as straw, leaves, wood-mould, &c., and to absorb the excrements, both solids and liquids. It is particularly important to save the liquids, as they are worth four times as much as the solids.

Manures of every kind should be kept under cover in order to preserve their fertilizing properties. Even the farm-pen and the hog-sty should be well sheltered.

To return to the subject of a rotation, I will further observe that our soils are well adapted to clover, and that clover and peas must necessarily constitute the principal basis of any ameliorating system that may be adopted here. Clover is our main reliance, and there is nothing like it as an improver; but sometimes we fail to secure a stand, and when that is the case peas should be immediately substituted. Our arable lands should not be allowed to remain a single season without a grass crop of some sort.

Allow me to say in conclusion to the Northern settler, that when he moves down South he should come with his mind open to conviction and entirely dispossessed of all his preconceived notions of farm management. Let him bring along with him all of his energy and his habits of economy, and engraft *them* upon the native stock, and not attempt to plant new systems unsuited to our soil and climate.

Cumberland Co., Va. WM. HOLMAN.

[For the American Farmer.]

On the Culture of Tobacco.—No. IV.

Cutting and Housing Tobacco, &c.

This, with the planter who has a full crop for the number of hands employed, is a very busy time; and to avoid being hindered during this period, every necessary preparation should previously be made. For the benefit of the inexperienced planter, I will give a few directions concerning the time to cut tobacco. The fading of the crop while growing, though it may occur when the plant has attained to nearly full size, is not to be regarded as evidence of ripeness; because the crop on light sandy soil will sometimes fade two or three weeks in advance of maturity. Nor should the absence of dappling and fading in a crop grown upon dark loamy or red soil be taken as proof of unripeness. Time is the best criterion. About 8 weeks is necessary to mature tobacco after it is topped, and it should never be cut in less time, except in cases where the plant is affected by scab or fire and to secure it from injury by frost. To avoid injury to tobacco by rain, which falling upon it in piles in the field, will flood and dirty it, no more should be cut each day than can be housed or in some way protected from the weather. The stalk of each plant when cut should be split from the top down to the second leaf above the lowest one upon the stalk, and the stalk severed just below it. When cutting, great care should be used to avoid breaking off the leaves from the stalk.

Tobacco should never be cut when wet with rain or dew, otherwise the soil will adhere to and soil it. If the day on which tobacco is cut be clear and hot, it should be taken up in 25 to 35 minutes after it is cut, two to four plants in the hand, and placed in piles or rows, with the butts pointing southwest, after the manner of shingling, and sloping back at an angle of some 45 degrees. By thus placing it in rows, the width of the tobacco rows, and running parallel with them if the rows run southwest, and if otherwise across them, all of the best leaves are protected, and the rays of the sun falling upon the butts and bottom leaves of the plant the wilting process goes on; and thus the necessity for covering the piles to prevent sun-burn is obviated and time and money saved. Tobacco should be hauled in cart bodies, loaded on with the butts of the stalks outside and the leaf ends lapped in the centre of the body, and slided out at the place of housing. There should always be straw, leaves or grass put in the bottom of the body before loading, to prevent mutilation and bruising. Tobacco should be hung with 7 to 10 plants upon each stick, the sticks being 4 feet 6 inches long, according to size, and passed as hung into the house and placed upon the tiers. The distance between the sticks upon the tiers should never be less than 7 inches, and, if the tobacco is very large, 9 to 10 inches is necessary in order to sound curing.

The hands employed to hoist and place the sticks upon the tiers in the house should always be given a measure to work by, so as to secure uniformity of distance between the sticks; and they should also be careful to regulate the plants upon the sticks, giving them their proper distances. Houses for curing all kinds of tobacco, except bright and fancy wrappers, should be so constructed, with windows, as to admit the air during dry and exclude it in wet weather, and thus avoid as far as possible the necessity to fire it while curing. Still, do as we will in the construction of houses, the necessity will arise fo use fire, because the housing period is short; and the planter, in order to secure his crop from

frost, is compelled to fill houses with green tobacco from day to day, and should the weather in the meantime become hot, damp or wet, and the tobacco yellow, the curing process must *then begin*, or it will damage. In such a case, I presume, no wise man would hesitate to use fire. Ardent spirits have their uses. It is better to administer some to the sick man than that the life should go out of him for want of a stimulant. It is the excessive quantity that injures or kills. So in the application of fire to tobacco. A little warmth produced by coal fires—say 100 to 110 degrees of heat by thermometer—during the hot or damp weather will dry out the sap, continue the curing process and preserve the tobacco from damage and mould, and not impair its value for any purpose for which it would otherwise have been suited. No quality of tobacco when curing should be permitted to damage for want of assistance in this way; and except to prevent damage and to cure fancy bright wrappers, and perhaps some shipping qualities for export, I think the application of fire does no good, but is injurious. Before closing this article I will make a few points of importance to be observed: First, green tobacco cannot be handled without *doing it some injury*,—therefore it should be handled *as few times as possible* before placing it in the house. Second, the more thoroughly it is wilted when handled the greater will be the injury. The leaves adhering to the stalk and the weight from above pressing down when hauling it, if the distance be far, the injury done in this way will be great.

I have known the value of some otherwise good crops to be greatly impaired in this way. This injury will always be avoided by observing the directions as above stated, for securing the tobacco, when it is cut, from sun-burning,—as it will not when managed in this way be so much wilted as to bruise when it is handled. In this article I have said nothing in favor of scaffolding and sunning tobacco. My reasons for this reticence will appear in my next. J. M. BAKER.

Louisa Co., Va.

How can we Improve our Poor Farms?

Messrs. Editors American Farmer:

Of the large amount written for the benefit of the farmer much of it fails of its purpose; because, generally speaking, it seems to regard him as a well-to-do man. Of course it may be courteous to do so, but then it fails to deal with his case, which is often perplexing.

The homesteads of many of us are a poor legacy, either naturally or improvidently so, and upon which it is difficult to eke out one's existence. The oft-given advice to sell one-half and apply it to the improvement of the balance cannot be followed for want of purchasers. We see the state of affairs and theorize how they might have been guarded against, but remedy now seems all but impossible; like a fellow sliding into a gully—can't stop until he reaches the bottom. If one should sow grass seed they would not grow even if they lived without nourishment other than that furnished by the soil. We can purchase fertilizers on time, but the return crop will often fail to pay for same and labor, even though the "grain crop be made the vehicle for getting in the grass." Thousands of farms in the country are below grass-taking condition, and to manure the whole from the barn-yard could not be done in thirty years.

Composts are expensive to handle, and often materials obtainable are of little value, and to sow peas, &c., for fallow, cannot add to the stock of minerals contained by the soil; according to theorists, only placing the little there at the mercy of the robber farmer. There is no doubt but that science has benefitted agriculture; but it must do more than it has done: it must produce an extra bushel of grain for less than a bushel is worth, or it will be of no *material* benefit to the producer.

I will guarantee that even a short-lived European war cannot induce our farmers to use as much commercial fertilizer, at its present value, this season as they did last. Now, our present state cannot well be tolerated longer. We are not grumbling over hard times, for we are getting along as well or even better than those of most callings, but how can it be improved is the perplexing question. Year after year sees frugal, industrious farmers fail to meet necessary expenses, and yet you will hear some well-to-do one say that "farming does pay;" but then I don't suppose his farm is very poor. Well, Messrs. Editors, this scrawl of itself amounts to nothing; but if it will call from any of your contributors an experience of how to live off of a poor farm and at same time make it a productive one, it will accomplish its mission. B.

Richmond Co., Va., April 11, 1878.

[We would be glad to receive fron some of our readers, a paper on the subject-matter of enquiry of our correspondent. That many farmers *have* become prosperous and even wealthy, who have taken hold of worn-out farms, and pursued a system of management by which they have been brought up to great fertility, there can be no doubt, and cases have frequently been presented to the point in the pages of the *American Farmer*. It is true, those who had no spare cash to aid them in their efforts, have been forced to persevere much longer to succeed, than those who had a plethoric purse. But this is the case in the business life of men of all professions, except it be of those who consider that "nothing venture nothing win," which is very good in some cases,—for *faith* is a principle upon which all must depend. But he who ventures beyond all reasonable prospects of success, is a *speculator*, and he may enrich himself by some short cut to reach his desired haven, but is at the same time liable to make a disastrous failure.

Those who are in the condition depicted by "B" must begin on a small scale. If not involved in debt, there is scarcely any farmer who cannot command some credit to enable him to make a beginning; but if he is ignorant, or lazy, or idly disposed, he may have ever so good a chance,

and yet even with friends and funds to back him, he is sure to be unsuccessful in the end. We believe that the chances in favor of a competency and success in farming, are as ten to one over any other profession; but the requisites to success alluded to above, will be as necessary for the tiller of the soil as for any other business man. We could point out cases to prove our position—where one farmer has had good results from a farm upon which he paid a good rental, whilst the preceding occupant, with rent free, and a good backing in bank and elsewhere, utterly failed to pay his way.

We have in our day perhaps stated a fact which we will here repeat: Harford Co. at one time was probably the poorest county in Maryland, possibly excepting Montgomery. These counties are now amongst the best farmed and most prosperous among their sisters. In Montgomery we have recently given some proofs of what we say, and we will refer to Harford;—years gone by, a lawyer who occupied also the position of a farmer and that of a banker, was frequently called upon to loan money to his neighbors, whose poor farms continuously kept them impecunious. His reply was to such, of course, in whom he had confidence, that he would lend them money provided that they would appropriate a certain portion of it to the purchase of lime, almost the only fertilizer at that time known outside of the barnyard. The result was, that an improvement was begun, and now there are to be found estates which prior to that day would not support the poorest families, are worth more than $100 per acre. We could name such cases if it was necessary. No doubt it was a slow process, but it was a sure one; and one who tried it informed us that when bones began to be used, finding he could hasten the process of improvement by their aid, he began to decline, in a great measure, the use of lime. His farm literally starved out his predecessors, and was bought at $3 per acre, but now $100 would not tempt the owner to part with his broad and rich acres. These are facts, and they can be substantiated beyond any peradventure.—*Eds. A. F.*]

Useful Knowledge and Industry.

Messrs. Editors American Farmer:

I am not one of those who think that money-making is the sole purpose of man; nor that improper means are justifiable in obtaining ends. We would inculcate that honesty is the best policy, and industry the only means of prosperity. "Be sure you are right, then go ahead."

Science, industry and method work well in everything. With these preliminaries we will proceed to find out how to make the farm pay. We will not chalk out too large a farm, nor will we try too many means of accomplishing the end.

The laws and customs that now obtain with regard to property, require that every one use his own so as not to interfere with that of his neighbor. For instance, to keep his own things home, he must have good fences that will keep other people's off also; next he must divide it into suitable parcels, for the various purposes of his calling. He will find it perhaps necessary for looks as well as profit to clear away rocks, stumps, briars and noxious weeds. Then find out what fields would best suit the several cereals—and which suit best for grasses.

We proceed on the supposition that proper houses, barns, stables, &c., are or will be ready for the various purposes of the farmer. Likewise that the proper utensils, horses and stock are there. For successful results the proper means are necessary.

After everything is procured and properly applied, the best seed sown and fertilizers made use of, the probabilities are that the returns will be ample; yet one thing might be wanted, and that is the proper seasons. I mention this that the farmer may not be too sure.

In the long run good plowing, good cultivation and good seeds will win. In stocking the farm, not to have more than can be kept, but let those be of the best breeds. There is not much difference in the keep of them, but considerable in the profits.

Judgment with regard to management is equally important; so is economy. Labor properly applied is certainly remunerative. The economy of time and money ultimately tend to success.

To enter into detail would occupy much space. In connection with farming, gardening, fruit-growing and raising the various melons appertain. What would not be food for man might be a feast for beasts; as it takes drops of water to make up the ocean, so to make a fortune everything should be utilized. Take care of the pennies and the pounds will take care of themselves. What has been done can be done again. Some have made farms pay; everyone can, and it is worth trying for. "Recompense them after the work of their hands; pay them that they have deserved." As a wink is as good as a nod to a blind horse, I should suggest that no opportunity of collecting fertilizing materials should be lost; all the sweepings and scrapings about the premises should be put into a pile or sink and attended to, that a compost be obtained. What straw, fodder and other rough material is remaining, spread over bare places to shade them, and that a mould thereby be produced that would tend to the production of grain or grass. C.

Jefferson Co., W. Va.

To Mark Tools.—Warm them slightly, and rub the steel with wax, or hard tallow, till a film gathers. Then write your name on the wax with a sharp point, cutting through to the steel. A little nitric acid poured on the marking will bite in the letters. Then wipe the acid and wax off with a hot, soft rag.

The Tobacco Horn-Worm.

To the Editors of the American Farmer:

There is a diversity of opinion with growers of tobacco concerning the tobacco fly; some contend that worms produced from the first deposit of eggs made by the fly each year, about the first of July, and spoken of by planters as the first glut, when full grown descend into the soil, and change to flies in time to make the deposit of eggs which produce the second glut of worms which appear during the full moon in August.

Others believe that the worms produced by the deposit of eggs made in July, when fully grown, descend into the soil and there remain until time to make the first deposit of eggs the following July, and so of the second glut.

I belonged to the second class of theorists, and thought that a case of such practical importance should be reduced to a test. Accordingly, on the 18th day of July of last year I put into a box filled with soil one full-grown horn worm, and on the 24th inst. I put into the same box three others of full size, and placed the box in a shaded place,—leaving the top sufficiently open to admit the rain to keep the soil in the same condition as to moisture as other soil: thus giving the worms, as near as possible, the same chance they would otherwise have had to undergo transformation.

Upon examination at different times, I found them changing rapidly,—the worms soon assuming a brown color and chrysalis state; and on the morning of the 21st of August following, upon examination, found one full-winged fly ready for work, and one in the chrysalis state, which in a few days would have become a fly, and two others which had perished in the chrysalis state; from which I infer that many of them die in passing through the change. From this experiment it appears that the tobacco horn-worm undergoes transformation in about one month. Is not this rapid transformation peculiar to this species of fly or worm, and worthy of further investigation?

Will not some entomologist enlighten us concerning this matter?

Now for the practical bearing of the question: Since having ascertained by experiment that the worms produced by the first deposit of eggs, when they have attained to full size, are transformed to full-winged flies in one month, is it not very important that all of the first glut of worms be killed? Because by so doing we effectually prevent the second deposit of eggs, which produces the second swarm of worms, which are the most destructive, as they prey upon the leaves which remain upon the stalk of the plant after it is topped.

By exterminating as many of these as possible from year to year, and by also killing the fly produced by the worms which escape our vigilance, we may in time get rid of a pest which is vexatious, expensive, and most damaging to our tobacco crops.

J. M. BAKER.

Louisa Co., Va.

GRASSES FOR SIDE HILL.—A good mixture would be 12 lbs. red top, 11 lbs. timothy, 8 lbs. red clover. To improve, reduce by half the red top and timothy, and add 6 lbs. perennial rye, 2 lbs. orchard and 2 lbs. June grass.

The Enterprise Club.

Messrs. Editors of the American Farmer:

Sickness prevented the Enterprise Club from meeting at the place adjourned to; but fourteen out of the sixteen members gathered at Frederick Stabler's near the regular hour (4 P. M.) on last Saturday. It was a beautiful spring-like day, with just a little too much wind to be agreeable.

After a few minutes pleasant chat, we selected Granville Farquhar as foreman, and then sallied forth for a long walk over our host's farm.

Passing by the out-buildings it was refreshing to notice the neatness and thrift everywhere apparent. Fat pigs kept in a clean pen, sleek cattle in a well-littered yard; a new iron-axle broad-tread wagon; a hay carriage, made on the most approved plan, and well painted; a corn crib recently built, narrow at bottom and wider at top; and many other things, gave evidence that Mr. Stabler is not one of the kind who sit down, and with the old Marylard motto, "It will do," let things take care of themselves.

We walked by two fine fields of wheat, though the wheat was badly bunched by a new drill purchased last fall. Passing over some grass fields we shortly arrived at the "Jumping-off place"—a hill so steep it seemed incredible it had ever been tilled, and yet it must have been, as clover, timothy and orchard grass were growing luxuriantly on the almost perpendicular sides.

Here most of us, and even some on the shady side of forty, laid aside our usual dignity, to test our muscles in seeing which could cast a stone over a very tall tree that stood at the foot of the hill. Not being able to accomplish that feat, we resumed our manhood and wisdom, and attempted to instruct our host how to drain a small wet depression near the creek. Some advocated digging a ditch entirely around the spot, cutting off all the spring-heads, whilst others said a ditch up the middle would be better. One thing, however, we may rely on—our host will not leave it until it is well done.

Mr. Stabler's home place consists of one hundred acres; this is all the land he farms, and he makes it pay; furnishing his family a good living, and laying by something for a time of need. He raises some of all the grains adapted to this climate, hay and potatoes, fruits of various kinds, and peaches in abundance. He also takes city horses to board, which always go home better than they came. He uses for fertilizers W. I. Bond's I. X. L. and dissolved bone, home-made manures carefully saved, and oyster-shell lime at the rate of forty bushels per acre in each rotation.

The landscape from this place is very fine; from one point during our walk we counted forty dwelling houses.

After returning to the house, and convincing ourselves of the high merits of Potomac shad, we were called to order by our foreman, and the first business was the reading of an essay by Granville Farquhar, on the subject selected at our last meeting. He did not favor plowing down green clover for manure, as it makes his land too light to reset for several years. He thought it better to allow the clover to fall down on the land the second year after seeding, and

remain as a covering through the summer and fall, to be plowed for corn the following spring, and then seeded to wheat and grass; with this management he had been successful. He treated the subject very thoroughly, producing some excellent ideas,—so that when the question was open to discussion, there was very little to be added by other members.

B. H. Miller suggested that it would be well to cut a crop of hay, say about the middle of June, and then let the second crop grow up and cover the land,—thus securing a good forage crop for winter use, in addition to the top-dressing or covering of the after-math.

A great many other questions were discussed, but none of general interest.

The question for our next meeting is: Is it more profitable for a dairy farmer to sell his butter to private families in Washington City, at 50 cents ℔ lb., or wholesale to a store at 40 cents. Then adjourned. N. E. D.

Sandy Spring, Md., April 15, 1878.

A Visit to Judge Fullerton's Farm.

As read to the Enterprise Club of Montgomery Co., Md., by a Member.

While on a visit to Ohio last summer I promised through a letter to the club some notes on the subject of stock and its management. After having prepared the article I was either too modest or too proud to produce it at the next club when it was not asked for, but having since somewhat overcome those feelings I now offer you a brief and hurried account of a visit to Judge Fullerton's farm in Fairfax Co., Va. While on a visit to a friend at that place he kindly showed me this farm, among other objects of interest. It lies about six miles west of the court-house; you approach it through a very poor country, mainly of pines. After crossing a small creek and ascending a hill it all burst out before you, a beautiful oasis in the desert, and the contrast is most striking. I was informed by a gentleman who seemed familiar with Virginia lands that it was probably some of the poorest land in the State, certainly in Fairfax Co. When Judge F. made the purchase of 400 acres, he was told by land agents that he was getting the poorest land in the State. "That, gentlemen," he replied, "is just what I want; and I want to prove that there is no tillable land in Virginia that cannot be made productive." I was disappointed not to see his manager, who could have told me the system they pursued. I observed that much of the corn land was sown in clover at the last working of corn, the clover looking very fine and vigorous. The corn-stalks indicated an unusual growth—20 barrels claimed—and the old sod I never saw excelled; but the improvement is not so hard to understand, when you know he has a bone-mill on his farm, supplying all of that article needed, with immense quantities of salt, shipped from New York. Added to these is the manure from 90 cattle, a large number of hogs and horses necessary to conduct the farm. No small grain is sown: corn and grass exclusively, save patches of winter oats, rye and fodder. This large number of stock is soiled almost entirely; no cross fencing, the outside fence being mainly of boards. There are two large barns, each about 100 feet long, one for hay and the other for cattle, with commodious apartments in the second story of the cattle-barn for feed of different kinds. At the lower extremity of the barn-yard was a fine spring, supplying water for the stock, and a dairy near by.

We saw a little boy who told us that his father was in the field a long way off, and would not be in until night; we inquired if he had an older brother who could tell us about the cattle; he said his *brother* was in the barn. In passing through the yard we saw about 50 pure Holstein cows; they had just been fed with a chop of cut-fodder and meal, milked and turned out to water. We found the stable divided in this wise: two long rows of stalls on one side, with stanchions. The cattle faced each other, with an aisle between just wide enough to allow the cattle to eat clean across. At one end is a funnel, down which the hay is thrown, and evenly scattered along the aisle. Getting impatient to make the desired inquiries I looked up the funnel where the hay was then being thrown down to speak to the young man, but he adroitly kept out of my sight, only being able to see the fork. My attention being attracted by the cattle coming in, a damsel of sixteeen glided down with fork in hand, which fully explained the shyness of the supposed *boy* in the funnel. The girl moved about with wonderful alacrity, scattering the hay fore and aft; I remarked to my friend that I believed she would hay more cattle than two colored men left to their usual gait. After finishing her work, she, with her brother, a lad of fifteen years, gave us valuable information in regard to this fine herd. They are mostly pure Holstein, with a few grades—half perhaps imported, very large; and one he was offered a thousand dollars for when she landed at New York. We were shown one that gave 10 gallons of milk per day. I inquired whether a heifer calf could be obtained; they said the Judge declared that until he had increased his herd to 150 he would not part with a female to the best friend in the world. The bulls he sold for $100. One word as to the appearance of these cattle, and I will not tax your time farther: They are tall and lengthy, I should judge requiring liberal feeding, pure black and white, sometimes the one color predominating and then the other, and often the colors equally divided,—none other being genuine.

Haymarket (Va.) Agricultural Club.

APRIL MEETING.

Messrs. Editors American Farmer:

The club met on the 12th inst. at the residence of President W. H. Brown, with Col. E. Berkeley in the chair. The farm of the last was, five years ago, a tract of land covered with pine and scrub oak. To-day a handsome dwelling and necessary out-buildings are found, and fine fields of grass and clover meet the eye, showing the result of judicious fertilization and liming; and also that the many acres of land found in similar condition in northern Virginia will be reclaimed and made productive at a future day.

The committee of inspection reported favorably upon the general farm operations of member

Brown; they expressed their surprise to find a Southdown buck with horns 4 inches long, and consider the same (although from Druid Hill Park) as not pure-bred. The very fine peach orchard, planted but five years ago and containing trees 4 to 5 inches in diameter, was greatly admired. Mr. Brown exposes the top roots of his trees during winter; whitewashes the trunk with lime and carbolic acid, manures with short rotted manure about five feet around the trees, and works with mattock during the summer months. Surprise oats, weighing 38 lbs. to the measured bushel, show the adaptability of his land for grain and grasses.

The following views were exchanged upon the question, "What is the most profitable breed of horses to raise for us?" The members believe that it is not profitable to make a specialty of horse-raising in our section; consider it judicious to raise for one's own use; to raise only well-bred horses if such are to be raised. It was thought that for sale a large horse of fine style and action should be bred, and it was thought by some members that a good farm mare bred to a thoroughbred stallion would produce such; and other members believing that more blood is necessary for such a horse. It was remarked that too much blood will cause a certain excitedness and nervousness, while all agreed that a horse with good blood will stand rougher usage and nevertheless attain a higher age.

The season for planting corn being near at hand, the question of fertilizing same was brought forward. The club is decidedly in favor of fertilizing corn, preferring the ammoniated phosphates, bone, Peruvian guanos. A small application in the hill to insure a rapid send off, allowing an earlier working, was generally considered of great importance. The members are divided in their experience in applying large quantities, 200 to 300 lbs. per acre, several advocating the broadcasting of same, with small quantity in hill, believing risk large when drought or excessive heat sets in; others believing that 200 lbs. can safely be dropped with corn if care is taken to scatter somewhat. The rolling of seed corn in a paste of fertilizer was recommended. It was thought best to plant thickly to insure a good stand and to save too much replanting.

A member believes some replanting of great benefit,—the replanted corn giving fresh pollen for fertilization in case of drought, and leaves out a row here or there for that purpose. The club is in favor of working corn both ways, competitive trials showing the advisability of such course in our section. The executive committee was authorized to propose an experiment in corn-raising to each member, the result of which will be published at a future day.

The club will meet at member Thorpe's on the 10th of May, and discuss the best mode of cultivating corn. W. L. HEUSER, *Sec'y.*

TENNESSEE PROLIFIC CORN.—Hon. William Fullerton is raising the above corn, and prizes it highly. It has ten rows, wiih small cob and very deep kernels. It seems well adapted to Virginia. Some plants have as many as twelve ears. He plants in hills four feet apart each way.—*Ex.*

Sweet Potatoes.

Editors American Farmer:

The *methods of planting*, as stated in my last article, are in ridges and hills over the manure (except when manure is broadcast) as there described. In many parts of my own and other States, where farmers plant only for family use, I have often seen *high ridges thrown up with the plow, and then the earth carefully pulled up with the weeding hoe*, and the sets planted on the ridge. This we regard as *labor lost*, and positively injurious to the *development* of *short, thick, marketable* roots. The ridge is but a *convenience for working* the crop, and when we lay them by there are very slight elevations, in fact, fresh earth enough to sustain well the crown of the plants.

Planting Sets.—Just as early as we can risk the plants in the open air and field, the last of this month of April, and first week in May, we draw the plants from the bed, and set them on the *fresh, newly-prepared ridges* or hills. If, when ready to plant, showery weather comes on, we avail ourselves of it, and at once set the plants. If we are ready, and do not desire to defer the setting, we draw the plants, set the roots as drawn in boxes containing mud of the consistence of cream; take them to the field and plant late in the evening, firming the earth with the hand around each plant set. Well-grown plants contain so many roots and live so easily in *freshly moved soil*, that I have often seen them do better *in this way* than when set after very hard rains. When the soil was *too wet*, the *earth* in such conditions will bake hard around the plants. In general women or boys drop the sets at the proper distance, each followed by the hand who plants.

The Jersey growers here are very expert in setting the plants with a pair of wood tongs, made of laths, with which they pick them up, insert one in the ground, and with a gentle tap the plant is set without the fatigue of stooping.

Cultivation.—We deem it important to get a good stand as early as possible; hence, in a few days after planting we go over the field and *replant* all that have failed; next we hand or hoe work around the sets, loosening the earth to set them to growing.

We will suppose the plants well rooted, growing, and the grass is springing up around and between the sets: the sooner we work the crop now the *less* will be the labor required.

With a one-horse plow the plants are sided off close, and the grass removed with the weeding hoe; others prefer *flat* weeding the ridges without plowing; scraping down the ridges with the hoe. Sometimes I have saved labor by using the Dixon cotton sweep, held slanting so as to shave off the grass into the balk, leaving a very narrow strip on the ridge for the hoer. The crop should be cleaned and worked, and the best method of doing it will suggest itself to the farmer on inspecting the land.

In two weeks, more or less, the crop will again require working with hoes and plows, and the balks should be thoroughly worked so as to destroy the grass.

At the last working, the vines have grown so much that we turn them in the opposite rows,

work thoroughly every other row with the cotton plow, and then return back, working the rows in which the vines were first placed. To turn the vines, our men use a stick about five feet long with a hook, to save the labor of stooping; with this they pull the vines easily, without bruising them, from one valley to the other.

In a very short time the vines run from one ridge or hill to the other and cover the whole surface, and the land will or ought to be nearly level as soon the *loose* earth settles. The potato roots ought to form so near the top soil, that in August, when we walk over the patch, the ground can be seen *cracking* where the roots are forming around the stem of the mother plant.

My impression is, that the same applies to this crop as with the Irish potato; *too deep covering* of the soil will injure the *development* and *size* of the tubers and roots; and failure is often attributed to *soil*, when, in truth, it is due to improper management and cultivation.

It frequently happens in rainy season that the vines root of their own accord in the balks, forming little clips, so that many persons go over the patch and break up their connection with the ground. It is doubtful whether it will pay for the labor any better than removing suckers from corn on rich land.

Yield and Profit.—So many factors enter here in reference to the land and its adaptation to the crop, and the time of the harvest and supply in the market, that it is almost impossible even to approximate results. The potato is edible as soon as it has any size, and will continue to grow until frost,—often a month or six weeks longer than it is permitted to do when sold in August as an early market crop.

A grower remarked to me some time since, that when he could harvest 25 bbls. per acre in August, and get $3 per bbl., he was satisfied it paid him well.

Such a crop would yield more than 40 bbls. per acre in October. My impression is that the Hayman can be grown *with profit* at 30 cts. per bushel and the yellow-skinned kinds at 50 cts. per bushel. The profit will depend, like other crops, on the yield per acre and market price; in general it is always worth here the labor and a good rent of land for home consumption and home markets; by the latter I refer to the Virginia towns—Lynchburg, Danville, Staunton—and other interior towns, through which there is railroad transportation from our county.

Food Crop.—A few years since a barrel of Hanover sweet potatoes were sent to a celebrated English professor of agricultural chemistry, who made an analysis, to compare this with other root crops as to its value for food. This analysis I can't find just now, nor is it important that I should do so, since my experience with the crop in feeding it to hogs and cattle satisfies me that it ranks higher than turnips, beets or pumpkins, and nearly equals field peas.

Harvesting.—With a sharp weeding hoe the hands cut the vines from ridge, and with a two-horse plow the roots are turned out; these are thrown by hands into *lay rows*, assorted into market roots, *cut* and broken roots for hogs, and slips. From the early crop we save no slips or small potatoes, but feed them to hogs. Flour barrels with cloth covers are used for shipping to Northern cities.

Keeping Sweet Potatoes.—Few crops we grow are more susceptible to injury by cold and frost. Careless farmers often allow the crop to remain in the ground in the fall until the frost has killed the vines. When such is the case many potatoes will be found with frosted ends, *bitter* when cooked, and decay easily. Some of our experienced growers say *that to keep well* the roots should be harvested *while growing*, before the frost touches the vines. Warm—say 70°—*dark* and *dry* are conditions we must look for, with an *equable temperature*. Many persons well provided with cellars prefer to put them up during pleasant days of October in hills containing ten to twenty barrels, on well-drained land, covering deeply with wheat or pine straw, and on this five or six inches of soil; over this is erected a rude shelter of fence-rails covered with straw. Taken from those hills in March, they may be kept in a dry cellar until June. At this date (15th April) potatoes are abundant here and sold on the street at retail for 60 cts. per bushel.

When cotton seed are abundant the roots have been kept well in dry barns enveloped in the seed, from whence the potatoes are easily drawn for daily use. Packed in boxes, with layers of dry sand, in flour barrels with straw, has succeeded well with us. Long-top fodder or hay ricks, like the letter A, were formerly favorite places with farmers to store slips, eating roots and pumpkins. In Jersey, houses are built with large bins to hold one or more thousand bushels, and are warmed with stoves through the winter, and thus kept for the spring market.

Diseases.—The most formidable enemy to the young plants in the hot-bed, often appearing in the field soon after transplanting, is the "Black root," "Black shank," familiar to all growers. It is a tree-blight or gangrene of the *roots*, and my impression is that it proceeds from *over* stimulation by *heat* and ammonia from the material used in the bed; it sometimes, although rarely, appears in the plants raised under sash in cold frames. Soon after setting the plants we find they do not grow, leaves look yellow and spotted, *sickly;* pulling up the set we find the cause in the black stems under the earth, in which there is very little life and circulation. The remedy is of course prevention and a careful rejection of all plants affected with black spots on the stems when drawn from the bed. When the plants are healthy, setting over heating manure, or an opposite cause in cold, unfavorable weather supervening soon after they are set, so that the plants cannot grow, is *supposed* to be another cause of this disease.

Appreciation.—One of the most valuable and useful crops grown on the farm for family use in March, April and May, when other vegetables are scarce, this is the vegetable indispensable. We have seen it used to cheapen flour, with which the boiled potatoes are mixed for bread and biscuit. We make of it potato custards, sweet-potato pies, spiced with wine sauce, potato puddings, and *boiled entire, peeled and sliced à la Yankee style* (dressed with butter, but *no* salt, if you please) it is an excellent dish. With us the universal custom is to bake *slowly* and *long*, putting them on for dinner, soon after breakfast,

and sent to table hot and in their own skins; peeled and dressed with butter or gravy from the roast fowl, few persons will reject them.

In the exhausting diarrhœa of teething children during the summer our people use and find roasted sweet potatoes an excellent *food* and remedy for this disease in their little ones.

Sliced and dried they may be sent on long sea voyages, or ground into flour, making excellent bread. The first digging for family use in summer should be exposed to the sun for a week to sweeten them before using. In August and September in this county you will find them lying on the flat shed roof of most farm-houses.

To cook them when dried as hard as *chips* it is only necessary to pour boiling water over them the night before they are wanted, and next day boil, peel and dress with butter.

In conclusion I may state that our river growers are preparing to plant a large crop for market, since they have more faith in profits from the "sweets" than from the "Irish;" many crops of the latter have been recently injured by *being cut down* by the frost. The *potato beetle* made its appearance last spring among us for the *first time*, and grave apprehension of injury to the present early Irish potato crop is felt by many.

G. W. Briggs.

Nansemond Co., Va., April, '78.

OUR FRENCH LETTER.

City Sewage.

Messrs. Editors American Farmer:

One of the many difficulties connected with the sanitary improvement of cities is, what to do with the sewage, or rather, how dispose of it. So far as this metropolis is concerned, every suburb recommends that its vicinity be especially exempted from receiving the sewage. Wherever the distribution takes place, if landed estates be enriched, house property sadly declines in value. Respecting night soil, there are two systems of treatment adopted by various companies; the oldest and the worst consists in the periodical emptying of the cesspool in the court-yard of the fecal matters, by means of pumps, into large iron or wooden barrels, which are discharged into reservoirs in the outskirts of the city, mixed with charcoal, &c, and converted into *poudrette*, phosphate, concentrated manures, &c., varying in price per cwt. from 7 to 30 fr. One company has no less than 14 millions francs sunk in this industry. In addition to receiving the night soil gratis, landlords have to pay for the cleansing of the cesspool. The second system, with several more or less professed ameliorations, conveys the fecal matter in hermetically closed zinc cylinders; the full being replaced by the empty ones. Frequently old beer barrels are substituted for the metal vessel. The second system is so inoffensive, that the dustmen perform their ordinary calling in full noon-day. Berlin has expended 30 millions francs to canalize her sewage to the fields of Osdorf; as many more millions will be required to pipe the sewage over new and greater surfaces—over the whole of Prussia it is suggested, as is at present the case throughout the whole of Wurtemberg. The plan adopted at Stuttgard, is simply to supersede sewers by the ordinary railways—by special manure trains. The public water-closets, &c., are emptied every 14 days in Stuttgard, and the contents conveyed by train to subscribers throughout the realm. The climate and soil favor this plan of distribution. The little station of Fellbach receives two manure wagons twice a day,—farmers transporting the fecal matter directly to their fields. It is contemplated to adopt the Flemish system, that of erecting depots for the sewage along the roads, and contiguous to the railways. Stuttgard pays 13 times less annually for the removal of her sewage than she did a few years ago, and farmers readily subscribe for it. Munich is trying the plan, and Dresden is about following the example.

Experiments with Fertilizers.

It has been pointed out, that in the scientific composition of manures, while all formulas have been based on the composition of plants, the bearing of these on the nature of soils has been overlooked. In other words, commerce prepares special manures for plants,—forgetting another and perhaps greater want, their application to each soil. In Belgium, many farmers test manures on different plants, grown on a variety of soils; the latter and the manures are carefully analyzed. These volunteer experiments have been of great practical value, by enabling cultivators to economize in the purchase of fertilizers. It is unnecessary to buy all the active elements of a manure, if one or more of these already exist in the soil. The active elements of manures are nitrogen, phosphoric acid, potash, &c.; it is essential in purchasing to be sure if a fertilizer contains these in a soluble, assimilable, or insoluble state. Some soils contain enough of nitrogen, others a sufficiency of phosphoric acid or potash. To suppress the superfluity by not purchasing a special manure containing it, is a net gain. Further, it would not be wise to conclude, that if such an agent be not used this year, it will the next. The soluble stimulants of manures are washed very rapidly out of the soil by the winter rains. These remarks are peculiary applicable to reclaimed lands.

Fattening Sheep.

M. de Henneberg, of the agricultural station of Göttingue, has acquired a reputation for the precision with which he conducts his experiments. Desiring to induce farmers to prefer producing meat to wool, (a question that has occupied his attention since twenty years,) he selected four lots of sheep, comprising four animals each, to determine how far the fattening process was affected when the animals were deprived of or retained their fleece. The races were mixed; crossings of Hampshire, Southdown, and Rambouillet rams, with hardy local breeds; one lot consisted entirely of the latter. Two animals in each lot were shorn; in one lot they were 19 and in the others 24 months old; the fattening lasted 85 days, and the food, uniformly and scientifically calculated as to fat and meat-producing effects, consisted of lucerne hay, oaten straw, beet, crushed maize, and sesamum cake. When slaughtered, no marked difference existed in reference to the production of meat and fat. This contradicts a rather general opinion, that

shearing sheep before commencing to fatten induces the greater production of flesh, by inducing increased appetite and augmented powers of assimilation. Compared with the removed and washed fleece, the production of wool was against the unshorn animals; but the difference was not of much practical value, as the young clip was of little importance. Taking the food in the sense of its dry matters, every hundred weight yielded about 10 lbs. of flesh and 30 lbs. of manure; the quantity of the latter being uniform for all the lots. M. de Henneberg concludes, that the slight pecuniary gain was in favor of the unclipped animals, and that preliminary shearing is of no advantage where sheds allocated to fattening secure a temperature of 54° F.

Farm Machinery.

Several local agricultural societies in France have, with the view of encouraging the purchase of reaping and mowing machines, adopted the admirable plan of granting a bounty, for a number of years, at the rate of fr. 1½ per acre operated upon. Several farmers club to purchase the machines. The great obstacle to the employment of the steam plough was its cost; M. Debains continues to be successful in simplifying the process so as to reduce the price 50 per cent. An ordinary traction engine is employed. The farmers are looking forward to the agricultural machinery at the exhibition with an anxious pleasure.

The Exposition.

The annex of the Universal Exhibition devoted to agriculture and now completed, is as spacious as it is commodious, and the exhibits promise to be marvellous. During the season, a series of conferences, under the auspices of the government, and exhausting all the most important questions connected with rural economy, will be held. The veterinary surgeons and horticulturists will also have their special conferences.

The Phylloxera.

The wail against the phylloxera increases rather than diminishes, and plans for combating the insects abound. Unfortunately the agent found to be more or less efficacious in one locality, fails when applied in another; hence, the reluctance of the government to adopt any summary measures that might interfere with private rights. The general alleged cure for destroying the devastating bug, where liquified sulphurous acid is employed, costs with all accessions about 16,000 fr. per acre! This smart medical fee is suggestive at least. The Paris & Lyons Railway Co. declares to have full confidence in the use of sulphuret of carbon; the injections ought to take place at two periods, between December and March, and from the last week in May till the close of June. The company supplies the liquid at fr. 25 per cwt., and will take back the barrels and injectors; it also furnishes the chloride of potassium, the tonic for the vine, at the rate of fr. 12 per cwt. This salt ought to be mixed with the ordinary manure, or with earth, and applied round each stem; 2¼ lbs. of the salt to 50 stocks. It is now established, that the winged bug has a winter egg, deposited under the back, adhering to the latter and never to the wood. Hence, the cure of barking the vines when not too young. This treatment prevents the products of the aerial eggs from creeping rootwards in July, and does not affect the luxuriant vegetation of the vine. A special glove is employed to rub off the bark. Another enemy of the vine is the snail; this voracious depredator is disposed of by powdering the leaves and stems in early morning with lime.

The *Societe Centrale d'Agriculture* has entered into possession of its veritable palace, built through the munificence of the late M. de Bêhague. The library is magnificent and open to the public. A splendid marble *médaillon* of the donor occupies the centre wall of the council room, and around, the names of past and present members. F. C.

Paris, March 25, 1878.

The Benefits of Farmers' Meetings.

AN ILLUSTRATION.

Messrs. Editors American Farmer:

It is occasionally remarked that while such assemblages of farmers as the conventions at Sandy Spring and the like may be very pleasant in a social way, they are of little practical advantage. This is a very great error. Not only do we find ourselves stimulated to increased activity and interest in agricultural pursuits, but we approach nearer and nearer to an appreciation of the importance of coöperation, by which alone we can force from State and National legislatures such action as is needed for the proper development and protection of our all-important pursuit, one upon which those least conscious of it are so immediately dependent. But in addition to these general advantages, there are practical benefits derived from the hints thrown out, and experiences given by successful and thoughtful men.

A case in point is the following: It had been the prevailing idea in this section that the same flock of sheep should not remain upon a farm more than three years. We were accustomed to buying ewes from the stock-yards in Baltimore or Georgetown, putting a good buck with them, selling all the lambs, and at the end of two or three years selling off the old sheep and repeating the process. At one of the conventions of farmers held at Sandy Spring a few years ago, this subject was mentioned, and one of our most practical and successful farmers, Josiah W. Jones, stated that his experience had taught him that the only way to get a flock of good sheep was to pick out the best ewe lambs each spring, changing the buck every two or three years. He had had the same flock upon his farm for years and his sheep were very fine and healthy. Being struck with his views and very much dissatisfied with my own flock, I went with a friend a few days after the meeting to see his sheep and those of a neighbor, Mr. Washington Chichester, and found them such as to please the eye of every lover of things both beautiful and profitable. Returning home my own flock was between me and my house, and I made a considerable detour to avoid passing near them, they presented such a scrubby appearance. Having had a South-down buck with them, I at once bought a Cots-

wold buck, and selected each spring the best of the ewe lambs. Having had the Cotswold three years, I shall now get a Southdown ram again: the object being to endeavor to get the wool of the Cotswold, with the fattening properties of the Southdown. The result has been most gratifying, while I find from my journal (noticing the records in which suggested this article) that the flock formerly averaged 3 to 3½ lbs. of wool per sheep, last year it averaged 5½ lbs., this year over 6 lbs., and by another year, when all the old sheep will have been worked off, I have no doubt but it will average 7 lbs. The heaviest fleece was from a two-year old ewe and weighed 8 lbs. In my flock of 25 sheep I thus have made a clear gain of 75 lbs. of wool, which, at 30 cts., is $22.50 per annum. Moreover the buck lambs are large and thrifty, my heaviest lamb at Easter weighing nearly 60 lbs. I am aware that these results are surpassed by many, but they are given as an indication of the practical benefit, in a money point of view, of an interchange of ideas upon farming topics—my course having been suggested by the remarks of Mr. Jones. The same principle of improvement may be carried into every department of our calling, and when we have learned to give to our business the same patient and untiring thought and attention that are necessary for success in other pursuits, we will be astonished at the results that will follow. Already a new life has been infused into agriculture, and with each advancing year it strides forward nearer and nearer to the position it must finally occupy among the occupations of men. HENRY C. HALLOWELL.

Rockland Farm, Montgomery Co., Md.

The Profits on Sheep.

Messrs. Editors American Farmer:

Your correspondent "B" seems to think that advocates of sheep husbandry claim too much for their favorite stock, and suggests as an experiment, "to put the sheep into a poor field where the grass is thin and short, and watch the progress of the improvement." Certainly any one that tries that experiment with hope of profit will be disappointed, nor can anything as he suggests be had for nothing; but as the waste steam of an engine will steam food at no cost, since it would be lost if not so used, so a good field of good grass will return a handsome profit in pasturing a reasonable number of sheep where it will support no other stock. I commenced pasturing a hay stubble with cattle and sheep about the 1st of August; the cattle soon had to be taken off, as it ceased to afford them a good bite; the sheep were kept on till Christmas, then taken off till March, when they were returned till the middle of April. That year the field gave a little less than two tons of hay to the acre.

After harvest the next season the same thing was repeated, with more sheep and fewer cattle, and the yield of hay was over two tons to the acre. Again, last year the number of sheep was increased, yet that field gives as fine a promise of a crop for this year as any one could desire. That the sheep have been profitable, the enclosed account will show, in spite of the flock having been decimated by dogs in '76, while a number of ewes were lost from eating poison (ground ivy) before I ascertained what was killing them. My business year commenced on the 1st of July in each year:

SHEEP ACCOUNT.

	Cr.	Dr.
1874–'75.		
First cost, 30 ewes, $120, 1 buck $50.....		$170.00
" " feed, less value of manure.....		50.00
1875–'76.		
Sales 106 lbs. wool.....	$ 35.50	
" 180 "	44.62	
" 41 lambs and 3 sheep.....	157.50	
1876–'77.		
Cost of feed, less value of manure.....		50.00
" " " " "		25.00
" 14 purchased ewes.....		46.50
Sales 203¼ lbs. wool.....	57.00	
" 21 lambs.....	84.00	
	$378.63	$341.50

On hand—1 buck, 52 ewes and 8 ewe lambs.

The cost of feed is an estimate; it was obtained by charging the sheep with everything that was fed to them, and their manure for the entire year was considered to be equivalent to the cost of their pasturage; the little labor expended was much more than covered by the lambs and mutton consumed on the place. The sheep on hand are worth as much again per head as those first purchased, many of them being the get of the improved buck, bought at $50,—no ewe lambs having ever been sold.

I think this shows as much profit from a small outlay of capital and labor as can be made in any business I ever heard of. The year 1877–8 will show still greater profit when completed, though the buck was killed fighting and the flock was again seriously injured by dogs during the winter, the losses in each case being greater in the after effects than from the number of ewes directly destroyed.

Can nothing be done to protect us? Why cannot a reasonable tax of say $1 on each dog per annum be imposed, the money to be used in indemnifying sheep-owners from losses by dogs. Any man who can afford to keep a dog can pay a dollar a year for him. I have never asked any gentleman about it who was not willing to pay such a tax; and as I keep several dogs myself I do not think I am partial. See if you cannot get some enterprising politician to secure himself the vote of every sheep-owner in Maryland by proposing such a law. And believe me

Your obedient servant,

OWEN NORRIS.

Cloverdale, Talbot Co., Md., April 17, 1877.

[The voters who own dogs, and worthless ones at that, and do not own sheep, are so greatly in excess of those who possess profitable sheep, that we opine no politician could be brought to see his own interest in proposing or favoring such an enactment as that suggested.—*Eds. A. M.*]

Merino Sheep as Improvers of the Soil.

Messrs. Editors American Farmer:

The article on page 123 of your last paper certainly requires some comments. B. therein states some doubts of the use of sheep. We commenced on a farm famous more for sterility and dilapidated old fences and buildings than for producing.

Merinoes have been kept, and from straw they have worked into manure in the stables, they have enriched field after field until no one now doubts the fertility. I never intimated something can be had for nothing; neither do I have a recollection of stating sheep will produce fertilizers from nothing; neither have I claimed that the sheep butchered in the United States net the producer $2.50 per head;—yet I claim I can grow Merinoes that will net much more per head than the price named. In western Pennsylvania any man will notice the wonderful fertility of the farms where Merinoes are kept—and contrast them with those where they are not.

Brownsville, Pa., April 10, '78. J. S. Goe.

Sheep as Fertilizing Agents.

Messrs. Editors American Farmer:

To any great extent I would not presume to instruct your correspondents and readers; but upon some points I can speak with some degree of confidence, and not the least so upon the

Renovation of Worn Land.

In the last No. of the *American Farmer* there is a question raised on the capacity of *Sheep to Improve Soils.*

From many years experience and observation I am fully convinced that *plowing-in green crops* with lime—such as clover and others—is the most economical and speediest means that a farmer can use for *bringing-up worn soil.* Yet, it *can* be very profitably done by the use of sheep—in pasturing even.

More than once, and on more than one farm, I have seen dry, barren spots, such as gravel knolls and side-hills, made fertile and productive in a single season, simply by salting a small flock of sheep on those barren spots twice a week during the summer; the sheep would be sure to resort there several times a day to lick up the salt, and thus leave their droppings, both liquid and solid, which are very rich fertilizers; then the next season, the most rank and luxuriant growths of grass or grain would be produced on those "galled spots" of any other portion of the whole field; thus, the best kind of manure was applied and spread just where most wanted without any hard labor. Weight for weight, sheep manure is more fertilizing than either horse or cow manure, and next in value to hen or hog droppings. Sheep are valuable fertilizers I am very sure. Columbia.

District Columbia, April, 1878.

How to Make Manure.

W. A. Scott, of Craftsbury, Vt., has a great reputation as a dairy farmer, and claims to have made the wonderful amount of more than 600 pounds of butter from one of his cows in a single season. A contemporary in Boston thinks "that there is no good reason for doubting his statement, only that it is a great deal of butter for one cow to make." Mr. Scott attributes his success largely to his method of feeding, especially to the young grass he gives, which is cut before it is in bloom. We think the cow should have some of the credit, and quite likely the lady of the house, who superintends all the details of the dairy, would not object to a division of the praise. In a recent number of the *Country Gentleman*, we find the following letter from Mr. Scott, describing his method for saving the manure from his cows, which must be of interest to those farmers who are in doubt as to how much the manure from a single cow is worth. He says:

I understand that some of the statements in regard to my grass crop are doubted, and the idea prevails that my farming does not pay. I therefore will tell how I make manure. I have a large shed, all closed up but a gate to go out and in, and a sliding window opposite, which, in summer, can be opened, and that permits a current of air to pass through, which keeps the cows comfortable in the night. In winter the window is shut, so that it is comfortable for the cows. There is good running water in the shed, which does not freeze.

In the spring, after getting out my manure, I cart in dry muck or scurf from a spruce ridge, and cover the floor of the shed all over about one foot deep for the cows to lie upon. Every morning I take up the manure with a six-tined fork, and the urine turns the muck to a dark color, so I can readily take that up and pile it with the droppings at one end of the shed. This is attended to every morning as regularly as I clean out the stable in winter. In this way I double the manure in summer. When I again get out all the manure (in the fall,) I fill up again with muck, and where I throw out the stable manure I put it one and a half feet deep. The stable floor is water-tight. I cut up straw and brakes in a straw-cutter to litter the cows in the stall, thus keeping them clean to milk, and keep litter on the lower floor, back of the cows, to take up the urine. I hoe back the manure morning, noon, evening, and at nine o'clock, before I go to bed, and sift litter under the cows every time. Then, in the morning, I fork the manure, urine-soaked muck and straw together, and then throw all out upon the muck in the shed. All the water that drains out is taken up by the muck underneath. Thus by spring the muck is saturated, and is just as strong as any of the pile.

This management more than doubles the quantity and quality of manure. The common talk of my boyhood was that a load of hog manure was worth two or three loads of cattle manure, because the hog is fed on richer food, and the bedding, urine and solid manure were all mixed up together by the hog. Now if a cow is kept fat by feeding twenty pounds of hay, cut from the 10th to the 20th of June, and has a peck of potatoes in addition, you have just as rich a manure as the hog makes, if it is treated as above described. A number of years ago I manured a piece of ground for corn with hog manure. I lacked enough for the piece, and filled out with a load from the cow-shed, and there was no difference in the corn. I spread a load of hog manure on my meadow for a top-dressing, after mowing in June, and also took a load of cow manure and spread it side by side with the other, and in six weeks from the time I spread it I mowed the grass. I cut a little over two tons per acre, and the two loads of manure were equal in effect—one being as good

as the other. The manure changed the grass from less than one ton to over two tons of nice hay in six weeks. It was showery after putting it on, and was a nice growing time.

The manure I am now making will be spread on the ground next spring and cultivated in; seeded down with 1½ bushels of seed per acre and rolled. The 15th of July, if it is a good growing time, I can cut two tons of hay per acre; the last of August will get two tons more. I have done this many times. The manure on this spring's sowing grows and puts back into the barn two crops of nice hay, and comes back into the tub next winter in butter as nice as summer butter. Thus this treatment more than doubles the product, and the product more than doubles the beef and butter above the common practice. The manure then goes again for another crop to the land the next spring; so the annual circle is carried around complete.

Carrots and Mangold Wurtzels.

Mr. James J. H. Gregory, the well-known seedsman of Marblehead, Mass., has just published a compact and useful little manual on the growing, keeping and feeding of these roots and sugar beets, full of interesting material to every cultivator who grows ever so small a quantity of either. The general principles enunciated in reference to fertilizers are valuable for other plants. From it we extract the following:

Value of Carrots and Mangolds.

Carrots and Mangolds are subject to but few diseases. In discussing the nutritious value chemists differ somewhat, according as they measure this by the nitrogen they contain, their per cent. of dry matter or sugar, but they agree in ranking them much superior to the early varieties of turnip and somewhat superior to the Ruta Baga or Swede class, particularly when fed to full-grown cattle. Prof. Johnson ranks Carrots with Cabbage when fed to oxen, for nourishment, and experiments appear to have proved that when equal measures of each are fed, Mangolds will give a greater increase of milk than potatoes, by about a third. For some reason not fully understood, (perhaps the depth they penetrate the soil has something to do with it;) Onions will do better after Carrots than after any other crop, the yield being larger, the bulb handsomer, while the crop will bottom down earlier and better. Unlike Turnips or Swedes, with high manuring the crop can be profitably grown for years on the same piece of land. Swine prefer Mangolds to any root except the Parsnip, and both in this country and in England store hogs, weighing from 125 lbs. and upwards, have been carried through the winter in fine condition, when fed wholly on raw Sugar Beets or Mangolds. Chemists rank Carrots, when compared with oats, with reference to their fat and flesh forming qualities as 1 to 5.

Not only have roots a value in themselves as food, but they have a special office, taking to a large degree the place of grass and preventing the constipation that dry feed sometimes causes. While practice proves that they should not be relied upon to entirely supersede hay or grain, still they increase the value of either of these to a large degree; and for slow working stock they may be fed with profit in place of from a third to half the grain usually given. Carrots add not only to the richness of the color, but also to the quality of the milk, while the flavor of the butter made from such milk is improved. Carrots fed in moderate quantities to horses give additional gloss to their hairy coats, and have not only a medicinal value when given to such as have been over-grained, but aid them in digesting grain, as may be seen in the dung of horses fed on oats with Carrots. When cooked they are sometimes fed to poultry, and either cooked or raw to swine. In the family economy they have their place, particularly when young and fresh, while in Europe they enter largely into the composition of the well-known vegetable soups of the French.

Location, Soil and Manure of Carrots.

Mr. Gregory says the best soil for the carrot, particularly the Long Orange variety, is a loam mellow to the depth of two feet or more, and on such a one it will perfect itself, growing straight and beautiful. Of the application of the manure, he says:

All root crops delight in most liberal manuring and the highest of cultivation. Carrots are no exception to this rule. With every crop, other conditions being equal, *it is the last half of the manure giv s the profits;* and the more costly the cultivation required the more important it is that this golden fact be borne in mind. Though chemical analysis shows differenee in the composition of all roots, and that there is therefore an office for special manures, yet their general composition is so nearly alike, and animal manures, most of which contain in greater or less proportion all the elements required, are so difficult to handle in just the proportions that would be required from the chemical standpoint, particularly when we consider that soils on which root crops are grown are usually rich in manures, varying in their chemical constituents, left over from former crops;—for this reason I treat of manure by the cord and with reference to its comparative strength, bulk for bulk, rather than of its chemical elements.

Eight cords of good stable manure, nine cords of a compost made of one part night soil to two parts muck or loam; twelve cords of a compost made of one-third fish waste, by which I mean the heads and back-bones of the fisheries, and two-thirds soil; eight cords of muscle mud; six or eight cords of rotten kelp—either of these applied to an acre of land in good condition by previous high cultivation would be sufficient for a good crop of carrots. Other manures might be mentioned, but these will serve as a pretty good measure of value for any kind accessible to farmers in general. To produce a very large crop such as one would like to be able to point to when premium crops are called for, add from one-quarter to one-half to the above quantities. The condition of the manure is a matter of importance; the stable manure should be good; not half bedding, not burnt, neither too coarse nor too new; the night soil should have been well mixed with

the soil in the compost heap, and have been pitched over twice with sufficient intervals between to allow it to develop some heat. The fish waste should be well decomposed, so well that all but the bones should have disappeared, and if these be very dark and brittle so much the better. The muscle mud should be rich in dead muscles. In all farming it is important that the manures applied should be in a fine condition mechanically, and particularly is this true of root crops. For the roots of all plants can take up only such parts of the manure as are dissolved in water, and the finer the manure is the more readily can water penetrate it.

A man who is unfortunately short of manures can materially increase the capacity of what he has by working it over until it is very fine.

When short of a supply of animal manure, guano and good phosphates, where the soil is already in good condition can be used with success, provided the season does not prove to be too dry a one. From eight hundred to a thousand pounds of Peruvian guano and from ten to fifteen hundred pounds of the best phosphates should be used, [or in less proportion, according to the wish or ability of the operator.] The famous fertilizer formulas of Prof. Stockbridge have generally done so well I should be willing to try them on an acre of Carrots, were I short of other manures.

There is another matter concerning our manures, which requires attention: if they are too fresh or crude they will be apt, if applied to our long-growing varieties, to drive the growth too much into the top of the Carrot, to the loss of the root, giving us tops to our knees with roots about the size of a hoe-handle. It is important therefore, when used liberally, that they should be somewhat decomposed—that the mixtures should be *composts*, as far as the time will allow, and not mere mixtures. To the shorter varieties the crude manure may be applied with a degree of safety. Here let me note a fact that I think is of general application in farming, viz:—that a style of manuring that will drive tall growing varieties of vegetable nearly all to tops or vine, with dwarf varieties of the same kind will work admirably. The Pea is a very good illustration; to get a good crop of Dwarf Tom Thumb, manure liberally, but the same quantity applied to the taller sorts would drive them excessively into vine at the expense of the crop.

Don't make your compost heap on the ground where the crop is to grow, for the result will be no crop where the heap stands. For the same reason it is bad policy to cart out any strong manure to stand on the land in heaps, no matter how small, over winter. There will be nothing lost by spreading the manure over the surface before the ground is frozen. In getting it into the soil, *keep it as near the surface as possible* without its interfering with the planting of the seed, bearing in mind the nitrogen, that element in manures, about the loss of which by evaporation there is much uncalled for anxiety, tends to work down into the soil. If the manure is coarse it may be applied to the surface in the fall and be deeply plowed in, and in the spring again brought to the surface by plowing equally deep, having meanwhile received the benefits of the frosts and moisture.

In applying the guano or the phosphates, keep them near the surface, scattering them broadcast and raking or harrowing in. It is best not to apply either of these all at once,—particularly is this true of guano. Apply about half at the time of sowing, and the remainder when the crop is about one-third grown—following it with the slide hoe, which will tend to work it in just under the surface. In applying guano and all similar fine manures in the spring time, it is well to do so early in the day, as winds are apt to rise as the day advances, which seriously interfere with the economical application and even distribution. Both phosphates and guano tend to hasten the maturity of the crops to which they are applied. There is one condition that has a very important bearing on the cost of Carrots and all roots, viz: that both the ground and manure should be as free from all weed seed as possible. For this reason ground recently from the sod, the third year, provided it has been kept under a high state of cultivation, and such manures which from their very nature must be comparatively free from the seed of weeds, such as fish composts, night soil, or barn manure a year old, are to be preferred.

Dr. Voelcker gives the result of 10 analyses of the ashes of the root and 2 of the ashes of the leaves of the Carrot, and from these deduces the following as the number of pounds of mineral matter taken from an acre of land by 10 tons of roots and 4 tons of tops:

Potash,	Soda,	Lime,	Phosphoric Acid,
116 lbs.	86 lbs.	101 lbs.	31 lbs.
	Sulphuric Acid,		Chlorine,
	34 lbs.		31 lbs.

To those who desire to experiment with mineral manures this table will be interesting as showing the kinds and proportion of each needed. The potash is found in unleached ashes, at the rate of 4 or 5 pounds to the bushel; or in the German Potash salts; the soda and chlorine in common salt, (chloride of sodium;) lime in the common lime of the mason, the Phosphoric acid in the phosphates offered in the markets, and the Sulphuric acid in that directly or in common finely ground plaster, known by chemists as Sulphate of Lime.

Preparing the Bed.

The great object here should be to get the soil thoroughly fine, that the small thread-like fibers, and the roots themselves, may waste the least possible vital power in permeating the earth in search of food, or in pushing downwards. The vitality wasted in this way is just so much taken from growth, and may make the sole difference between a good crop and a poor one. If it is necessary that the first plowing should be a very deep one, better apply the manure, (as previously stated, the finer mechanical condition this is in the better) afterwards. Should the manure be to any degree coarse after spreading, run the brush or wheel harrow over it, one or both. This will also break up the clods and fine up the soil and incorporate the manure with it. If still at all lumpy, follow with a plank drag. Next plow shallow a few furrows, and have men, with wooden-toothed hand rakes, rake at right angles, pulling all coarse stones and lumps of earth and manure into the last furrow made. In brief, proceed to make as fine a seed-bed as for onions.

If any one, depending on the apparent fineness of the surface, concludes to dispense with the final raking and let the work of the brush harrow answer, he will be apt to repent it before the season closes; should he try it let him be sure to double the quantity of seed planted in that portion of the land so treated. If the bed has its first plowing early in the season, much of the weed seed will germinate before planting time, and an occasional use of the cultivator will destroy many of the pests.

When to Plant.

In Massachusetts the planting time chosen by some is the middle of May, by others the middle of June. Early planting, when the weather is often moist, insures the germination of the seed and protects the plants when they break ground from "sun-scald;" but, on the other hand, by late planting one weeding is gotten rid of, and the crop is in full vigor in October, the month of all others most favorable for the growth of the root, and the carrots being dug while the tops are in fair growing condition keep better than when dug fully ripe.

As Carrot seed vegetates somewhat slowly and the plants are quite small when they first appear, weeds are apt to get the start of them before the rows can be seen with sufficient distinctness to make it safe to use the slide hoe. For this reason many farmers practice soaking the seed in water and keeping it at a temperature that will nearly develop the sprout, before planting. This may be done by soaking the seed from 36 to 48 hours in milk warm, rather strong manure water, then removing it to where the air is of about the same temperature. Stir it lightly for a few days, and finally dry it sufficiently to drop freely from the machine by adding plaster, charcoal or dust. Camphor has a wonderful effect in stimulating the vitality of seed, and the addition of a small quantity of it to the manure water would doubtless be of advantage. This process should not be carried so far as to develop the sprout.—Should the surface of the ground be very dry when the seed is sown, this soaking process may be fatal, for if the germ is once started it will not live in a dormant state; it must either grow or die: whereas, seed that have not been soaked will vegetate after rains wet the dry surface. Be sure that the seed-planter has a good roller attached to it, and not a mere coverer, as this will help confine the moisture and thus materially aid in developing the seed.

Tables vary greatly, some advising as high as four pounds to the acre. If the design is to raise small-sized roots for early marketing, possibly this might not be an excess of seed; but to advise so heavy seeding for ordinary field crops, means that much of the seed is poor trash, probably old and worthless, and put in as a make-weight.

With everything favoring, and the farmer by experience having his seed-sower under perfect control, rather less than a pound of seed will be sufficient for an acre. The great object to aim at is, while having the plants thick enough, not to have much of any thinning to do, as it costs about as much to thin a crop as it does to weed it, with the drawback that the plants left in the ground are more or less started, and so put back by the thinning. As a general rule I would advise one and one-half pounds of seed to the acre, and this the farmer can reduce in proportion as he is favored by circumstances and advances in experience.

Twelve inches is a sufficient distance between the rows of the two small early varieties, and fifteen between the rows of all other sorts.—With the greatest of care the seed will not come up with mathematical precision. Some advocate leaving a plant to about every inch of row; others, to thin to four inches apart. Carrots are somewhat like Onions in their aptitude to grow to a good size when crowded, pushing out either side of the rows, and at times crops will give great bulk when the plants are nearer each other than four inches; still, as a rule I advise thinning to near this distance, leaving them thicker near vacant places.

Cultivation.

Just as soon as the young plants can be detected breaking ground, the prudent farmer will push the slide hoe, and have his boy weeders follow immediately after it on hands and knees. Boys that have had a little experience, with their nimble fingers can do more work than men, while their wages are only about half as much. On the sea-coast we hire boys who make a business of weeding, for from seventy-five cents to a dollar a day. The one great danger in hiring boys, is that careless ones are apt to break off the weeds instead of pulling them up by the roots. To ascertain their comparative faithfulness, it is well to quietly mark a few rows of the different weeders, at their first weeding, and by the time for the second weeding the difference between a good and a bad boy will be very plainly visible.

Don't accept that theory of the shiftless man, that it is well to have the weeds grow pretty tall before the first weeding, that the plants may be protected from the sun. I have noticed that oftentimes those who act on this theory give over their weeding, and plow up the bed before they have half finished it. Promptness in the first hoeing and weeding is exceedingly important in the management of all root crops, and it is where the great mistake is apt to be made in their cultivation.

There are a few implements that are specially needed in the cultivation of root crops, and of these every wise farmer will get the very best attainable. These implements are the Seed Sower, the Hand Weeder, the Slide Hoe, the Common Wheel Hoe, and one for weeding both sides of a row at the same time. Of these there are a great many varieties, each of which are more or less popular among a class of growers.

Varieties.

Mr. Gregory recommends the Early Short Scarlet Horn for the table in preference to all others. It can be grown to yield a great bulk of roots, is of superior quality, while its rich color makes it valuable above all other kinds for coloring butter.

The Danvers Carrot is in form midway between the Long Orange and Short-Horn class, and it gives the greatest bulk with the smallest length of root. It is of a dark, rich orange color, being smooth and handsome, and easier to dig than the Long Orange. The Danvers growers raise of it from 20 to 40 tons to the acre.

The Long Orange is a standard variety, the chief objection to which is the depth to which it penetrates the ground, causing extra work in digging. It is an excellent keeper, and on light soils the roots grow long and straight.

The Large White Belgian is the largest variety and yields about a quarter more than any other. The roots grow several inches out of the ground, and may be readily pulled by hand. It is rather a poor keeper, and its color makes it rather a carrot for horses than for cows. For farmers having but a small quantity of manure, this is a good variety for them to raise for feeding early in winter.

Kentucky and its Farming.

[Our correspondent, Capt. M'Ginnis, reappears this month, with some interesting notices of the condition of affairs in Kentucky among the farmers.—*Eds. A. F.*]

Editors American Farmer:

Paris, a beautiful city of about four thousand souls, rises high on the "extended" plains; and law and order, and quiet, reign supreme. This is the county-seat of Bourbon. The court-house is a magnificent structure, reared since the war. In the Clerk's office are to be seen original letters of Boone, legal papers connected with suits in which Boone and Kenton appear to have sued and been sued. They both appear to have been somewhat litigious, and availed themselves of legal technicalities and contentions. Boone was manifestly illiterate; Kenton was involved in debt, and evaded the sheriff's process, as appears from returns of officers to the effect that he had fled whence it was dangerous to pursue, on account, I presume, of the Indians.

Paris has a competent number of well-attended churches, with an able and earnest clergy. Virginian traditions are indelibly impressed on this city and country. The principal families refer with pride to Virginia ancestry, and justly claim Kentucky as next to the mother in the elements of true greatness and polite society.

The chief productions of Bourbon are large, enterprising, intelligent men and women; I believe it can boast of the tallest and most splendid ladies on the continent. The picture of a fashionable promenade in Paris, where many of the ladies rise to six feet, might seem extravagant, or inspire anxiety for effeminate charms; but if I could describe these accomplished ladies, or the inspiration of their commanding presence and polished modes, you would no longer imagine that woman's sway over the destinies of men and nations may be traced to some undefinable weakness.

Bourbon county is famous also for the production of blue grass, improved cattle and fine whisky. Of the cultivated crops the chief staples are corn, wheat and hemp. The rocks, soil and water are analagous to those of southwest Va.; but the limestone lies deeper. The climate is milder; the cropping season about two weeks longer at either end, affording a month longer for the production of crops.

Among the largest land-holders and most enterprising farmers are the Clays, Virginia blood, whose immense estates have survived, unscathed, the crisis that has forced scores of extensive farmers in the county to assignments. Famous among the cattle-breeders are the Bedfords, also of Virginia ancestry, one of whom purchased the forty-thousand-dollar cow, and actually paid thirty-six thousand dollars for her. She died soon after her arrival in Kentucky in calving. The calf survived, and was sold for fifteen thousand. A suit is now pending, brought by the purchaser of the calf, for damages for an alleged breach of warranty of his potency. Choice animals have frequently sold at from five to ten thousand dollars; but they can be bought now at as many hundreds. The breeders do not expect high prices in the present crisis, and would be glad to sell to their Virginia cousins, or even a Marylander, at prices consistent with the times.

An important item among large farms is blue-grass seed. It is harvested by running a machine over the field, which strips off the heads, and is afterwards cured and passed through screens, or sieves, separating some of the straw. But after the best cleaning practiced here, a novice would hardly suspect any seed in the chaffy stuff; it brings from 65 to 70 cts. per bushel of 14 pounds. A few years ago it brought two dollars. Mr. C. M. Clay last season saved some five thousand bushels; thus, at the price of 1876, the tops of his grass would have brought two thousand dollars, leaving stems and blades standing on the field for the short-horns.

Lexington is situated at the head centre of the blue-grass region, in Fayette county. In this county the breeding and training of fine horses is perhaps more absorbing than in any other part of the State. Chief crops: corn, wheat and hemp; blue-grass seed is also saved in great abundance.

Jefferson county, in which Louisville is situated, is famous also for fine horses and beautiful farms. Irish potatoes are here grown to a considerable extent, in addition to the staples already mentioned. We visited the splendid farm of Mr. L. L. Dorsey, breeder of the famous Golddust strain of trotting horses. He has on hand about one hundred head of stallions, geldings and mares. Mr. Dorsey has abandoned his public sales, and says he will sell privately at very low rates. Rolla, sired by the original Golddust, is as perfect a specimen, indeed I think the most beautiful horse I ever saw; a half interest in him was sold for ten thousand dollars a few days after his famous trot at Buffalo. About a hundred of this horse's brothers, sisters and offspring—stallions, mares and geldings, many of them well broken to harness—are offered at prices so low as to astonish any one at all acquainted with their blood, speed and endurance.

Mr. Dorsey's farm, known as "Eden Stock Farm," lies almost in sight of Louisville, adjoining the market-garden district. It contains 1,200 acres, receding gently towards and reaching within eight miles of the city, as level as a landscape gardener would have it. To convey an idea of the ruinous depreciation in price of the first lands on the continent, Mr. Dorsey says his farm, which brought two hundred dollars per acre when its producing capacity was fifty per cent. less than at present, would now hardly

bring over one hundred dollars per acre. Those wishing fast trotters, breeders or family driving horses of great endurance would do well to visit these stables, or write to Mr. Dorsey, Linden Station, L. C. & L. Railroad, Jefferson Co., Ky., for catalogue, &c.

Shelbyville, the county-seat of Shelby Co., is a live town of about 3,000 inhabitants, in the centre of one of the most productive counties in the State. This county, like Jefferson, fringes the great blue-grass region. Corn, wheat and hemp are produced in great abundance, and the farmers are far more independent and less in debt than in any county we have visited. Bourbon and Fayette, the most famous for blue grass and fine stock, present mostly lists of dozens of failures and assignments, and not unfrequently suicides of extensive farmers.

All this blue-grass region is limestone, lying deeper than in Maryland or Virginia, and usually a brownish-red clay soil, very deep, containing considerable humus. Bone-dust is the only commercial fertilizer used to any extent. The practice of turning under rye, instead of clover, to improve the soil, is almost universal.

As a specimen of the acumen of the leading farmers in this region, they have tried, approved and adopted the M'Ginnis harrow, and universally declare it accomplishes more thorough work, with less labor on team and driver, and is more durable and cheaper than any. I suspect myself—they have adopted the child of my creation, and nature makes us love our friends and appreciate their virtues, to hate our enemies and to magnify their faults; and I do believe if these noble men and women and this great State were less than half as fair, I might yet lack skill to draw the picture impressed on my heart and memory.

I have not leisure for reply to the polite criticism of your popular correspondent, Nansemond, but hope to do so in future, because it assails the foundations of the fabric I have resolved to build.

L. H. M'GINNIS.

Shelby Co., Ky., April 23, 1878.

Work for the Month—May.

Whatever opportunities for leisure the farmer may have, the present season affords few, and all energies ought to be concentrated on the prompt and timely accomplishment of the work in hand.

The Corn Crop—Attracts at this time in this latitude the greatest share of attention. The open winter and the earliness of the spring have allowed very forward preparation, and planting is in many places advanced considerably from the usual date. No need therefore to dwell on the preparatory steps, though we stop a moment to urge with emphasis the necessity of clean and thorough cultivation. From the first appearance of grass and weeds in the rows, careful workings should begin. These useless plants not only consume the plant-food which should go towards the maturing of the crops, but they pump up from the soil an immense quantity of water which is lost for beneficial purposes. Frequent cultivation not only keeps down the weeds, but preserves the ground in a porous state, so that it is open to admit the fertilizing influences of the air, the rains and dews, while it also prevents excessive evaporation from the layers below the surface, which in a pulverized condition acts as a mulch. For the great part of this cultivation we prefer the cultivator to the plow, which latter implement is too liable to lacerate the corn roots. The former, by shallow workings, keeps the ground mellow, and the weeds are destroyed before much growth is reached. When the ground becomes crusted after rains the cultivator should be run through as quickly as possible to lighten up the surface and admit of the fertilizing influences of the atmosphere.

Where planting the crop has been delayed from any cause, the delay should not be sought to be compensated for by lack of thorough preparation, which is of the first necessity. Better to wait a few days to insure complete pulverization by the harrow and roller than to force it and expect to make up by after-cultivation the lack of methodical and complete preparations. Of course, as a rule, the earlier the planting can be done the better,—the earlier growth being healthier and more vigorous, and the loss by worms less.

Potatoes ought to be planted only on land in good heart, and that in which a fair percentage of vegetable matter is present is best adapted to their growth. The main crop is by some in this section planted towards the middle of May, whilst others delay till June, in order that the time for the potatoes to make will be beyond the ordinary period of summer droughts. Keep the ground light and the weeds in subjection, and leave the hills flat or hollowed on top to admit of the water being absorbed and not allow it to run off. An occasional dusting of plaster will be found beneficial. A good mixture for potatoes is found in ashes, bone meal and salt. Superphosphates, especially those containing a percentage of potash, are also to be recommended. These inorganic fertilizers are greatly to be preferred for this crop to rank and unfermented manures, which are apt to produce diseased and ill-shaped tubers. Lime and plaster are two other kinds used on some soils with great success.

Root Crops.—The saving of hay, the advantage in point of health of cows, the maintaining the flow of their milk by their succulence, the quantity which may be grown on limited acres, are some of the advantages of raising these. In addition to what was said on this subject last month, see article elsewhere in this issue.

Millet and Hungarian, especially the former, are growing in favor. They may be sown at any time from the middle of May to the first of July. A bushel of seed to the acre is about the proper quantity. That meant for hay ought to be cut before the seed mature, otherwise the stems become hard and far less nutritious. See paper on the German Millet in our April issue by Mr. Schofield.

Fodder Corn.—That for curing is best sown early; that to be cut green may be sown every two weeks if desired, The land ought to be rich, and the drills two and a half feet apart.

Run the cultivators two or three times through the rows.

Tobacco.—The time of setting out will depend on the condition of the plants. Keep the beds free of grass, and force the plants along by top-dressings. Ground already plowed for the crop should be carefully worked so as not to bring up the grass.

Pumpkins should not be overlooked. They are easily grown in with corn, and are useful for cows and hogs.

Points in a Saddle Horse.

The most desirable points in a saddle horse, says the editor of the *Live Stock Journal*, are what are known as the saddle gaits, and of these the most important is the *walk*. This is the most important, because the most valuable and the easiest one for both horse and rider. It is a gait possessed by all horses, but few of them can be denominated *good* walkers. The average rate of speed at which horses walk, either under saddle or in harness, is not over three miles an hour, while a good walker can make five miles, with ease; and we have known some that could walk nearly, if not quite, six miles per hour under the saddle. Such horses will make wonderful journeys, with great ease to themselves as well as to their riders.

Next to this, as a desirable saddle gait, comes what is usually called the *fox trot*. Nearly all horses will take a few steps in this gait when going from an ordinary walk into a trot, or when changing from the trot to a walk; but very few horses will take this gait and keep it unless they have been trained to it. It is slightly faster than the square walk, and is a very near approach to what is called "single-footing." This gait may be easily taught to most horses, by urging them slightly beyond their usual speed at a walk, and when they strike the fox trot, as they will be almost certain to do before breaking into a trot, an effort should be made to hold them to the desired gait. They will soon learn to like it; and as it is a very easy gait for both horse and rider, it may be cultivated with profit. The speed will range, in different horses, from five to seven miles per hour, and it is, next to the walk, the best all-day gait for the saddle horse.

Single-footing is, perhaps, the next step in a regular progression of saddle gaits, and, as before intimated, differs but little from the fox trot. It has been described as an exact intermediate between the true walk and the true trot, and each foot appears to move independently of the other in a regular pit-a-pat, or one-at-a-time manner, and is a very easy gait for the rider. It is still faster than the fox trot, and many single-footers will go ten or twelve miles an hour. In exceptional cases it is as fast a gait as the true pace.

The *rack* is a slight modification of the true *pace*, in that the hind foot touches the ground slightly in advance of the fore foot on the same side, while in the pace the hind and fore foot keep exact time and move together, and on this account it has been described as a lateral motion. The rack is perhaps not quite so fast a gait as the true pace, but is one especially desired under the saddle.

In addition to possessing all the foregoing gaits, the perfect saddle horse should be able to trot, pace, and gallop as required; and should be quick, active, and elastic in all his motions. There must not be a particle of dullness or sluggishness in his composition. He should possess a sensitive mouth, and respond readily to the slightest motion of the bridle-rein in the hands of his rider; and in none of his gaits should there be a sensation conveyed to the rider that the action is labored or painful to the horse; and above all, he should be sure-footed and not addicted to stumbling.

Reforming a Balky Horse.

It was new to me, and was very effective in the one case in which I saw it tried, hence I send you a description of an apparatus designed to induce a balky horse to reform his bad ways. A light, but strong pole, has one end fastened to one end of a whiffletree—a steady horse being worked on this end. The other end of the pole extends to the head of the troublesome horse, and is fastened to a strap passing around the nose and through the bit rings. If the horse does not start promptly and keep abreast with his mate, he is pulled by the front and upper part of his mouth. Whenever he starts forward he is relieved. In the case in wh ch I saw this tried, the horse hung back for some three hours the first day, perhaps an hour the next, and gradually gave up after a shorter trial, until after about a month he showed no signs of his old habit. He was pronounced an unusually hard case, having had many other plans unsuccessfully tried on him. This plan is certainly more humane than flogging, or throwing the horse, or than most of the plans recommended for difficult cases.—*Cor. Live Stock Journal.*

Depraved Appetite in Brood Sows.

An inquirer of the *National Live Stock Journal* gives his experience with sows eating their young, and asks if this is an unusual occurrence, and how it can be prevented. In reply, the editor states that the habit appears to result from an unnatural craving, or depraved appetite, arising from some peculiar physical condition not yet explained. We never knew it to occur when the sows were perfectly healthy, quiet, and in good condition. A case in the writer's own experience was a singular one. A sow, just upon the point of farrowing, appeared feverish, costive, and restless, and was closely watched. As soon as the first pig was dropped she got up, and, with almost tiger-like ferocity, devoured it, and also all of the straw that had been moistened by the liquid that escaped her in giving birth, or had come in contact with the pig. In a short time another pig was dropped, with precisely the same result. A large pail of tepid water, slightly salted, was then brought to her; she drank it eagerly, and then laid down quietly and gave birth to a large litter, of which she took the best of care.

On another occasion the writer had three sows that were each suckling a large litter of pigs. They were kept in a half-acre lot, in which had

been placed several wagon-loads of brick-bats. They were well fed on a variety of food, but would often leave it untouched, while they eagerly devoured the soft brick. The more of this they ate the stronger the appetite appeared to grow for it, and the less they cared for their regular food. They grew leaner and more restless each day, and finally commenced to devour the chickens that ran into the lot to pick up the grains of corn. This appetite also grew upon them, until they appeared perfectly crazy for them. At length, in disgust, we turned them into a large pasture, some distance from the house, where grass and clover were abundant. They at once reformed their habits, and became peaceable, well-behaved, and thrifty hogs. We kept these same sows near the house for three years afterward, but the desire for chicken diet never returned in any of them.

We have referred to these cases to illustrate what almost every swine breeder has noticed—the effect of a depraved appetite, and to suggest a remedy: that of an entire change of diet.

Chicken Cholera—Preventives and Remedies.

By G. O. Brown, Montvue Poultry Yards, Brooklandville, Md.

This ravaging disease, once commencing in the poultry yard, is apt to depopulate in sufficient numbers to discourage the most ardent chicken fancier. Numerous reasons are assigned as the cause of the disease. Some declare it is due to unclean hen houses; some attribute it to vermin (hen lice;) while others advance the theory that it is caused by too fine breeding. The latter *supposed* cause is hardly plausible, for I have known whole flocks of common fowls to perish with it in a day and night. I am quite confident the *main cause* is the feed used. A long continuous feed or diet of any one kind of food will in due time very seriously affect digestion; the bowels become loose and irregular, the droppings are of a yellow greenish hue—which is always the forerunner of cholera. Quite a number of instances have come to my knowledge where this disease was certainly caused by *feeding corn exclusively*. As the disease seems to prevail more in spring time, (in this vicinity at least,) when the fowls are confined, while the garden is getting a start, and while thus shut up many farmers say they "*feed all the corn they will eat;*" and here let me say, that cholera breaks out in these corn-fed yards before it is known where a *miscellaneous* diet is given. Fanciers always provide their fowls with a varied diet, and cholera is comparatively speaking a stranger among these flocks.

Healthy fowls are not apt to have the cholera, and judicious feeding and proper care and attention will keep the flocks in a healthy condition. Last spring a gentleman sent for me to come and see his fowls, which he said were dying with the cholera. As soon as I entered the yard I discovered the cause of the disease. Lumps of soured corn meal, which had been mixed with *cold water*, were scattered around. All that was done to check the disease, in this instance, was the removal of the meal, and subsequent feeds of meal were mixed with *scalding* water. I keep my flocks in health by change of diet, feeding about as follows: The morning meal should be ground oats, rye and corn—about equal quantities of each ground together. This should be mixed with boiling or scalding water. It should be so mixed that it will crumble when thrown upon the ground. Cover it up in the vessel it is mixed in with an old bag, and let stand half an hour to steam and cook. To five quarts of this meal, (before the water is poured on,) a teaspoonful of fine salt should be well stirred through it. Once a month also add to the above-named quantity of meal a tablespoonful flax-seed meal, and occasionally a teaspoonful flour of sulphur—this should *not*, however, be fed except during *good weather*. If confined in close quarters, at noon a feed of green food is necessary. If fowls have an unlimited range they are better to work for their noon-day meal. In small yards suspend a cabbage head, so it will hang about six or eight inches from the ground. At evening, at this season of the year, cracked corn, oats, or good screenings, should be fed. During cold weather corn is preferable, as it contains more heat. I sometimes vary the morning feed by giving boiled oats or rye. Corn meal should *never* be fed mixed with *cold water*. Poultry will eat more of it than they should, and when it comes to swell it produces crop-bound, sours, indigestion follows,—and cholera is the final result. I have known chicks when dying off by whole broods with *gapes*, which were fed on cold water mixed with meal, to be immediately checked and finally entirely stopped by scalding the meal. If those that are troubled with gapes will feed scalded meal and good screenings, and see that the chicks get clean, fresh and pure water, which should be thrown out and dishes washed out and water replenished often, and see that there are no cesspools or impure water standing around where the chicks can quench their thirst—the gapes will disappear. Immediately upon the first evidence of cholera's approach—which may be readily told by the droppings—the morning feed should be mixed as usual, but to the water add enough Jamaica ginger to make the water look bluish or milky, and then scald meal as usual. This will immediately check the disease. Pulverized alum is also good mixed with the feed. A lump of assafœtida should be kept in the drinking water for a day or two. Do not feed any whole grains to the birds until you are satisfied they have fully recovered. One of the most excellent things to keep fowls in health is feeding with their mixed food powdered charcoal. An ear of corn placed in the oven until the kernels are charred black, they will devour with avidity. In hot weather see that they have shade, and good, well-ventilated houses; observe these instructions and poultry diseases will be comparative strangers among your flocks.

To Gain Flesh.—Abstain from the use of tea, coffee, and tobacco, and acids of all kinds; take a sponge bath daily, and dry with a course towel, using plenty of friction to promote the general circulation of the blood; then consume with your meals a large bowl of oat-meal porridge, with fresh milk.

Horticulture.

Maryland Horticultural Society.

APRIL EXHIBITION.

The shows of this association bear witness to the undiminished interest which is felt in its operations, and the success which follows the unselfish and unpaid endeavors of its managers to make it one of the permanent institutions of our city and State, and to cause it to contribute to the elevation of the standard of taste in horticultural art, and to promote the widening influence among all classes of a love of the beautiful in that department of nature.

Praise is due to a number of regular exhibitors, who, regardless of the prize schedules, present at each show a large number of extra objects to aid in giving effect to the display;—indeed, some of the most regular in attendance do not enter at all for premiums—this being, however, in our judgment, calculated to diminish the zeal of competition.

At the show on the 24th, both cafés and the central hall of the Academy of Music were occupied by tables. The spacious entrance hall contained a large double table, on which James Pentland had arranged an extensive collection of Ferns, Geraniums, greenhouse and bedding plants, including a new Rose which he has lately originated, and which, both in bud and full bloom, seems to give promise of doing him no discredit as compared with his former productions in that line.

In the same hall, Archibald Brackenridge had arranged on the floor the model of a handsome carpet-bed, in geometric style,—its effect being heightened by the use of a combination of foliage plants, such as Centaureas, Coleus, Achyranthes, with Agaves, Echeverias, &c.

In the north café, John Feast had an assortment of rare things, such as he usually offers, comprising a specimen of the Mango tree, a Francesia, Zerotus, Bonapartea, new Geranium, two of his seedling Camellias—one, the tried favorite "Mrs. Lurman," the other, the newer, "Mrs. General Lee;" Cromwell & Congdon had some extra-sized Geraniums, together with Roses, Verbenas, &c.; Mr. Wm. Fraser, from Patterson Park, offered some fine Fuchsias, Agaves, &c.; Andrew L. Black had tasteful models of a chain ribbon and a floral carpet bed; Sam'l Feast & Sons had here a fine specimen of the Cactus, Epiphyllum Feastii in magnificent bloom; N. F. Flitton, gardener to Jas. S. Gilman, two fine vases of foliage plants, which the judges pronounced worthy of great commendation, being unique in design and well executed; Robt. Patterson had Verbenas.

The vegetables were also placed here, and though not very numerous were of good quality. Earnest Hoen had some superb Lettuce; W. D. Brackenridge and R. W. L. Rasin, very fine Rhubarb, and the latter gentleman a meritorious collection, consisting of Asparagus, Lettuce, Cucumbers, (eighteen inches long,) Cresses, Mushrooms, &c.

The south café presented a charming sight. In the centre was a group of Captain Snow's air plants in bloom, their curious flowers objects of great delight to all observers—one, the Butterfly plant, presenting an almost perfect representation of a gorgeous insect of that class. On another table Capt. S. had some superb Azaleas and fine Ferns, &c. Wm. H. Perot's table was a very handsome one, containing Roses, Geraniums, Ferns, and a collection of exceptionally good greenhouse subjects, including some Orchids. Robt. J. Halliday had an assortment of fine things, including the Flamingo plant, (Anthurium Schertzianum,) which always attracts the curious. Ernest Hoen had a well-dressed table, with well-grown Cinerarias, Calceolarias, Geraniums, Lycopods, &c.; and August Hoen with fine specimens of Azalea mollis. R. W. L. Rasin exhibited Ferns, Lycopods, Cinerarias, &c., and an exceedingly well-grown and well-bloomed *Medinella*—a plant not often seen at our shows.

In cut flowers and designs the deposits were not as numerous as usual. R. W. L. Rasin and J. Feast & Sons had baskets; August Hoen, Tulips; W. D. Brackenridge, branches of Exochordia grandiflora and blooms of Magnolia Lenne and M. semperflorens—the latter a new production, a perpetual bloomer, and which received a special award of $5 from the judges. Ernest Hoen and Chas. Kemp, Jr., entered Pansies.

The following are the awards: For best 12 Azalea Indica $6, Capt. Chas. H. Snow; best 6 Azalea Mollis $4, August Hoen; best 6 varieties Calceolarias $3, E. Hoen; best 12 Roses, in pots, $5, Wm. H. Perot; best 12 Verbenas, in pots, $2, Robt. Patterson; 2d best do. $1, Cromwell & Congdon; best 6 Cinerarias $3, James Pentland; 2d best do. Ernest Hoen; best 12 Zonal Geraniums $3, James Pentland; 2d best do. $2, Ernest Hoen; best 6 double Geraniums $3, James Pentland; best 6 variegated Geraniums $3, Wm. H. Perot; 2d best do. $2, James Pentland; best 10 Ferns $3, James Pentland; 2d best do. $2, R. W. L. Rasin; best collection 12 greenhouse plants in bloom $5, Capt. Chas. H. Snow; 2d best do. $3, W. H. Perot; best model of ribbon or carpet gardening, $10, A. S. Black; 2d best $5, A. Brackenridge; best 12 varieties cut Roses $2, Robt. Patterson; best 24 cut Pansies, Chas. L. Kemp, Jr.; best basket cut flowers $3, S. Feast & Sons; 2d best do. $2, R. W. L. Rasin.

Best collection vegetables $5; best 6 stalks Rhubarb $1; best bunch Asparagus $1, R. W. L. Rasin; best 6 heads Lettuce $2, Ernest Hoen.

To Mrs. A. H. Fields, special prize of $1 for Amaryllis.

District of Columbia Horticultural Society.

Editors American Farmer:

After a previous preliminary meeting, at which a Constitution and By-Laws were adopted, this new Society finally held a meeting in Association Hall, Pennsylvania avenue, April 19, and elected the following officers and committees: President, Mr. John A. Baker; vice-presidents,

John Saul, Thomas W. Fowler and Edwin Cammack; recording secretary, Charles A. Ball; corresponding secretary, D. S. Curtiss; and treasurer, John T. Clark. Executive committee—Messrs. John Saul, George Glorius, Michael Esch, David S. Saunders and John G. Judd. Finance committee—W. Saunders, M. Hagerty and J. K. Kerr. The regular meeting night was fixed on the second Wednesday in each month, at eight P. M. Mr. Saunders and others addressed the meeting, on the necessity of industry and zeal on the part of all the members to make this effort a permanent success, by endeavoring to make all of the meetings attractive to the public as well as to the members.

The Society will always be glad to welcome to our meetings any or all members of the Maryland Horticultural Society who will give us the pleasure of their presence. COLUMBIA.

Horticulture and Agriculture in Georgia.

In Dr. Janes's annual report for 1877, of the progress of agriculture in Georgia, we find the following item on Horticulture:

"The indications are that more fruit trees are being planted than during any previous winter, some of the leading nurserymen having already sold out their entire stock of trees. This is an industry which may be made an important source of revenue, and will be as soon as advantage is taken of the superiority of our soil and climate for the production of some of the most delicious market fruits.

"We have peaches now which ripen one month earlier than the earliest of ten years ago. These may be sold in the New York market a month in advance of the local crop, thus securing the advantage of the highest prices. We have peculiar advantages in the production and sale of peaches, pears and watermelons.

"A cheerful, determined spirit pervades the farmers, who, while they complain of scarcity of money, are more than ever interested in their business, and hopeful of the future."

The average improvement of available Phosphoric Acid in the three years since the establishment of the Agricultural Department, is nearly 30 per cent., and for the last two years nearly 36 per cent.

In the purchase of 75,824 tons fertilizers inspected last season, the farmers of the State received an average of $7.13 per ton more in value of Phosphoric Acid, or $540,625.12 greater value than was received in the same number of tons purchased in 1873–4.

The average price per ton of fertilizers sold in Georgia in 1874–5 was $50.38; that of the last season, 1876–7, was $43.70, which is an average reduction in price of $6.68 per ton in three years. The number of tons inspected this year cost, therefore, $6.68 per ton, or, in the aggregate, $506,504.32 less than the same number of tons would have cost three years ago.

Assuming, therefore, that the average price per ton was the same in 1873–4 as it was in 1874–5, and considering the reduction in price, and improvement in quality, 75,824 tons cost the farmers of Georgia $1,047,129.44 less this year than the same number of tons cost them in 1873–4.

Add to this the fact that, in 1873–4, there were a number of very low grade fertilizers on the market, for which high prices were paid, while all such are now excluded, and it is difficult to estimate the benefits which accrue to the farmers from the supervision exercised over the sale of fertilizers under the present system.

There is an average of 37.8 pounds more available Phosphoric Acid per ton in fertilizers sold in Georgia than in those sold in Massachusetts. At 12½ cents per pound, this makes $4.72½ per ton, or $358,268.40 on 75,824 tons, in favor of the Georgia purchasers over those in Massachusetts.

The Georgia farmers receive, in the purchase of 75,824 tons, $365,850.80 more in value, in available Phosphoric Acid, than Connecticut farmers receive in the same number of tons.

Fruit Prospects.

Editors American Farmer:

That the *Farmer* of present month contained no accounts of injury to the fruit interest, resulting from the "cold snap" in March, was a surprise to your correspondent. Believing it proper, and in consonance with previously established custom, I hand you report for Caroline, *to date*. First, then, come *peaches* of course,—a great many of which are killed;—leaving, however, a great many still unhurt. And just here, while on the peach subject, I ask you what it is that has fixed the belief with so many otherwise intelligent farmers, that Nature's unvarying law is, that all the late varieties of peaches are *first* to bloom? You must be aware, from your occupation, that such an impression is common, while at the same time and for the same reason you *certainly* are aware that it is erroneous; for the reason, that there is as much variation in this relation among the late varieties *themselves*, as is there difference between time of blooming of the late and early varieties; for while some kinds of *each* class are sensitive to the first warm days of spring, swell and expand their buds early, the opposite is equally as true; and hence we find a few large, late, and *even yellow* varieties, as Rowlette for instance, the *very last* to open their blossoms.

And when we direct our observations to the earliest ripening varieties, we also find that the only law established by nature here is, that each *particular* kind has *particular* characteristics to make it such; and nature does *not* decree here, that because it is an *early* variety, late blooming as a fact is inexorable; hence, the *impression* common to many that late varieties of peaches *as a rule* are first to bloom, is not supported by nature as a witness. But, to proceed with my report: Cherries, so far as my individual observations extend, have sustained greater injury than peaches,—three-fourths of the blossoms are killed. Plums, not materially injured. Apples, ditto. Pears, two-thirds of the bloom injured, (I mean killed.) Yet, upon the whole, to summarize report, will say that to this date the fruit interests of Caroline Co. are well freighted with

promises of profit. What a day may bring forth—here I venture no conjectures.

Denton, Md., April 10th, 1878. J. W. KERR.

[At the time our April number went to press the accounts were too conflicting to enable us to judge of the effects of the recent cold spell.—Later intelligence seems to dissipate the fears entertained of general disaster to all kinds of fruit, and later reports now agree in the main with those of Mr. Kerr, although the date of the present writing is about that, season considered, of the most critical period with the peach.—*Eds.*]

Home-Raised Trees.

Messrs. Editors American Farmer:

We do not desire by any thing we say on this subject to affect the interest of professed nurserymen, for we believe they should receive all due encouragement as public benefactors; but, the trees the farmer may raise in the back part of his garden or *truck patch* have advantages over those from a distance, that render it well worth his attention to propagate what he may need for his own use:

Select a rich, arable spot; if not rich make it so; have it deeply spaded or plowed, and subsoiled and well pulverized; with a line lay off the rows about five feet apart; plant your seeds in the mellow beds thus prepared, and the next year the cions will generally be large enough for grafting,—which art anybody can master so as to ensure success. The young trees can be trained to your liking, and they should receive extra cultivation.

Trees thus managed will be thrifty and well-grown, and they may be promptly removed to the orchard and set the following fall. The great advantages are that they can be taken up (one-year-old trees) with but little loss of roots, will need but little or no *cutting back*, and they can be set with the roots fresh and unshriveled. These are great advantages, and such trees will in growth far exceed those from distant nurseries, although carefully prepared for transportation.

We have had very thrifty trees by taking up with the garden trowel from the pummace around the cider-press, in the spring, the little volunteer plants, three or four inches high, (thousands of which generally come up there,) and carefully place them in nursery rows about one foot apart. Select a damp, moist day. They will grow off and often keep ahead of those from seeds planted the previous fall.

It is our practice in setting fruit trees, or trees of any kind, two or more years old, to place them to the same point of the compass at which they stood before removal, or else nature has to work to suit the bark to the new exposure. Mark and plant as they stood in the nursery.

In digging trees from nursery rows, for two-year-old trees, do not use the hoe nearer than eighteen inches of their stems to loosen the earth; then pull the tree a little one side and carefully draw it out with all the roots you can get. If many roots are lost, cut back in proportion.

Home-raised trees may always be true to name, and of sorts adapted to your location. The latter is an important point, without which abundant success cannot be attained. No farmer will ever regret that he planted fruit trees, if he selected the right sorts, *and planted them right.*

J. FITZ.

Keswick Depot, Albemarle Co., Va.

Label for Fruit Trees.

There are a number of labels used for attaching the names to trees, and some of them are good enough if renewed every four or five years; but we all desire something more permanent, and this can be had by adopting Col. Marshal P. Wilder's simple contrivance, which is as follows: Take the usual strips of zinc, put them in water for a couple of days, and then by being exposed to the air a slight corrosion is produced. Then write on the strip the name with a good lead-pencil, say Faber's No. 1. Don't be discouraged if the writing should be very indistinct at first, as it will in a few days become as black as ink. There is one thing about zinc labels, however, that needs attention. If attached to trees with copper wires, the zinc is rapidly worn away, and in a few years the label falls off and is lost. If there could be eyelets punched in the zinc for the wire to work in, we know of no label at all comparable to it. The next best thing is to attach with small tacks a piece of wood to the top of the zinc for the wire and then fasten to the tree. They will last this way for many years.—*Germantown Telegraph.*

Floriculture, &c—May, 1878.

By W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore county, Md.

Greenhouse.

Vegetation out of doors is at this time about two or three weeks in advance of any year we can bring to memory,—consequently plants under glass have been more or less stimulated by the same influence. Should the present mild weather continue, a much earlier removal of plants to the open air will be necessary.

The truth is, where a sheltered spot is to be had, a great many half-hardy shrubby articles, as Oleanders, Acacias, Pittosporums, Oranges and Lemons, would feel better out of doors, and at the same time give a better chance to spread out and grow to advantage. Those articles destined for summer decorations, a list of some of the leading genera we gave last month. So soon as hot nights set in admit fresh air by lowering the upper sash, avoiding currents of cold air, which is pernicious to the cultivation of soft-wooded plants under glass; but humidity, short of saturation in the atmosphere, should be aimed at. We cannot put down in words the little wants, fixings and coaxings, that each distinct individual may require, from the time it is started into growth, until that enjoyable period when it develops its flowers or fruit; but there is one point not to be overlooked, and that is, not to permit the roots of a plant when growing it to get matted in the pot, before shifting it into a fresh one; and another point, give no more water than the roots will take up freely, bearing in mind that there are ten plants made sick by getting too much, for one that languishes by receiving too little of it.

There are some semi-scandent plants of great beauty when in bloom, as the various kinds of Allamands and Alycias; they all like a good strong heat to start them, but when once well grown and neatly trained they will open their flowers out of doors during our hot summer months. Two good creepers for shade will be found in Cobea scandens and Passiflora Decaisneana—the latter over and above its handsome flowers bears a large fruit, in form of a goose egg.

Lawn and Pleasure Grounds.

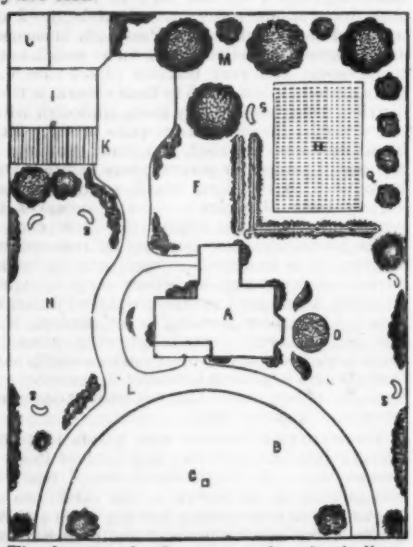
The extremely open nature of the weather last month caused us to anticipate then in our remarks a great deal of the work which properly belongs to the present one, and to these remarks we would respectfully refer our readers.

Planting out flowers and shrubs should be pushed to a close before the middle of the month; even Evergreens can be transplanted on the first of June without incurring any risk—that is, if they receive a good mulch of short-cut grass over the roots.

Spiræas, Deutzias and Wigelias got injured by early frosts, and consequently there is little bloom on our shrubs this spring; Spiræa grandiflora and prunifolia are the only ones with us that unscathed the storm, and the first-named one may be put down as a real beauty.

Plan for Laying Out a Small Place.

In our January number we presented a plan by Mr. Fraser for the arrangement of a lawn and trees about the farm homestead. We now give a design from *Vick's Monthly* for the laying out of a smaller place, such as a village lot of about three-quarters of an acre extent—say 150 by 200 feet.



The letters of reference on the plan indicate the following: A, dwelling; B, lawn; C, vase or statue; D, flower-beds; F, drying lawn; G, grape trellis; H, vegetable garden; I, stable; J, poultry-house; K, cold frames; L, carriage roads; M, fruit trees; N, croquet ground; S, seats.

The width of the lot, it will be seen, is great enough for a carriage-way in the form of a half-circle, so that carriages can enter at one gate and depart by the other without the inconvenience of turning. Curved walks are fashionable and in suitable places eminently proper; but they should not be attempted in small lots. A curved walk should be natural, the grounds showing a necessity for the curving, and be broad, well-filled with good gravel and kept clean and neat. Narrow walks looking like threads winding about the lawn, and others only half-filled looking like old water-courses, are to be avoided.

Evergreen Shrubs.

Messrs. Editors American Farmer:

We have never thought that sufficient attention has been given by the owners of suburban property to the use of certain kinds of shrubbery of the evergreen class, some of which are almost as handsome as flowers. Take the Retinispora for example; R. plumosa is a lovely shade of green, while its habit and shape are all that could be desired. R. ericoides is of a purplish color, contrasting well with and very distinct from any other; R. plumosa aurea is like R. plumosa, except that the young growth is of a beautiful golden shade, difficult to describe. It is, however, one of the most lovely evergreens which Japan has furnished us for some time. Good companion plants to the above are Thuja aurea and T. elegantissima.

Then there are the Junipers of both upright and spreading habit. Juniperus chinensis, J. suecida and J. hibernica of the upright class; and J. tamariscifolia, squamata, &c., of spreading habit. We see no reason why a bed planted with subjects such as herein mentioned and edged with some hardy plants as variegated trailing Euonymus, English Ivy, &c., should not have a beautiful appearance at all seasons, due regard being had to the arranging, surroundings, &c. In such a bed and in such company, spring-flowering bulbs would look well: Snowdrops, Crocus, Hyacinths and Tulips.

We do not intend that these should take the place of the bedding plants proper, but so used they would greatly prolong the season of beauty, and that is certainly worth a passing thought.

There are certain positions where some hardy plants might be used with good effect, such for instance as on a border leading to a rockery or the like—say, for example, Lonicera aurea reticulata, yellow; Ampelopsis Veitchii, pleasing green in the summer, changing to a lovely crimson in the autumn; English Ivy, Artemisia stellariana, white. Others might be added, but I am already wandering entirely from what was originally intended, my purpose being to call the attention of your readers to the beauty of some shrubs which do not appear to be appreciated as they deserve.

N. F. F.

A Peach Assorter.

The assorting of a large crop of peaches—so necessary to their profitable marketing—is a troublesome and heavy operation to be done by hand, and the machine of which we here give an engraving, Jones' Peach Assorter, effectually enables the power to perform the work quite as well and much more expeditiously than by hand. The fruit is first separated from leaves and dirt and then assorted into "Extras," "Primes" and "Cullings." We have seen it in successful operation, and a large number are used in the peach country. The assorters are made by A. B. Farquhar, of York, Pa.

The Wild Flowers of Virginia.

To a casual observer of the wild flowers that Nature has provided to beautify waste places, they possess but little beauty and no interest whatever; in fact, there are few persons who find enough interest in them to admit of their growing them, although there are numbers of wild flowers in the woods of Virginia, by the side of which a large majority of our garden varieties that are classed among "fine and desirable kinds" dwindle into insignificance, and whose beauty, or rather, imaginary beauty, fades as if by magic. And why they are not universally grown is a problem I cannot solve, but suspect it is due chiefly to prejudice; the flowers are wild, and for that they are prejudiced against them, although the plants may possess rare beauty. And I must admit that I am not free from this fault, for it is a fault and nothing else. There are now and then persons found who admire beauty in whatever form it may be found, and who take an honest delight in growing the wild flora of their country, though such are seldom seen.

One of if not the most beautiful wild flower I ever saw is Lobelia Cardinalis, known in different localities under various names, as "Cardinal Flower," "Traveller's Joy," &c. This produces long spikes of brilliant scarlet flowers that are quite conspicuous as centres of bouquets. It finds a welcome in all the florists' catalogues, and is worthy a place in the collection of the most fastidious amateur, though none may hope to grow it to the perfection it obtains in its native home, in some swampy place, where the penetrating rays of the summer's sun never reach the earth.

Some of our native ferns are really magnificent. Among these I may name: Scolopendrium officinarium, Polypodium cambricum, Struthiopteris Germanica, and a few others that possess much beauty. The last-named is, in my opinion, the prettiest. It frequently reaches over four feet in height. All kinds flourish in swampy places, where they grow in immense quantities. There are also a number of miniature species that scarcely reach six inches in height and are excellent for pressing, as well as one of a climbing habit, but of not much worth; and some kinds that grow on the bark of trees. From their descriptions in the florists' catalogues I am much of the opinion that Passiflora Incarnata and Bignonia Radicans are two well-known troublesome and very noxious plants that Virginia farmers know much to their sorrow, certain districts being overrun by them, although without a doubt the flowers are quite pretty. Verbena Montana, so-called, had been growing in my flower-garden for several years before it was introduced to the floral world as an "excellent variety from Montana." It well deserves its praise, however, as it repays the little care it needs by an immense quantity of rose-colored flowers; it is moreover a very early-blooming variety, commencing to bloom early in April. The first Aquilegia I ever saw was a wild variety which I have now growing in my garden; it is one of the most beautiful-growing plants I know,—each leaf and flower stem seeming to have been formed in perfect harmony to the other. It here flourishes under the not very harmonious name of "Spider's Legs."

There are two kinds of wild plants that bear flowers that are very like wax, one of these is known here as "Umbrella Flower," from its resemblance to an umbrella; the other has no leaves, the flowers coming out the earth and has a stem about six inches high, both flower and stalk being exactly like wax, pure white with dark purplish clouds on each petal.

There are also numbers of other kinds which lack of space forbids me to mention. A vine which is equally as pretty as Moneywort inhabits the high places of our woods; it bears small, pure white flowers in pairs, they being followed by bright red berries. It is known here as "Partridge Berry," "Buck Berry," &c. The *American Agriculturist*, several years ago, gave an illustration of it, together with a lengthy article.

Virginia, April, 1878. J. W.

The Weeping Beech.

We gave in our last issue a description and engraving of the cut-leaved weeping Birch, and here present, also from *Vick's Magazine*, a cut of the Weeping Beech, taken from a specimen grown in Rochester. This is a tree of large size and a vigorous grower. Its mode of growth is curious and picturesque. The trunk or stem is very generally straight, with the branches tortuous and spreading. Divested of its leaves the tree is ungainly in appearance, but when covered with its rich and luxuriant foliage it is interesting, and, indeed, by some thought to possess wonderful grace and beauty.

Ferns and Butterflies.

All admire Ferns, native and exotic; all desire to possess them in a living, dried or pictured state. Now while the weather tempts one to roam the woods, we can make a collection for out-door cultivation. For those who live far away from smoke and city, an open-air fernery will afford much delight. The citizen, too, having a shady yard, could also have a fernery.

Choose a North or West sheltered and shady situation. Make a raised bed with light soil, chiefly woods soil, border with long stone, set around like teeth; make a raised circular terrace for the centre; edge the border with wall ferns—short, flat-growing kinds. Though we cannot seek them on old-time weather-beaten ruins, we can find lots on the rocks. They have close clinging roots; remove with a sharp, flat trowel; set them like fringe around, with a little soil under them. Set the tall feathery kind in the middle; the shorter kinds out towards the border. Do not plant closely together, as they require room to unfold this graceful flower-like form. This bed will last years, if not disturbed. If the wall ferns are not to be had, set Lily of the valley for an edging. If desirable, plant a few coleus among the tall ferns. They will enliven and make a brilliant contrast through the summer.

Butterflies will now appear. The limestone—the blue, white and brown—will be the earliest. The elegant dragon-fly will soon come out of his watery bed. The French call the dragon-fly *demoiselles*, a name more applicable to their harmless nature than our inappropriate ones of horse-stingers, dragon-fly or devil-fly. R.

Riddles in Soil and Plant Culture.

Messrs. Editors American Farmer:

Whilst the true principles of farming and gardening are unaffected by time or place, the strangest diversity of practice may often be noted among men who are well versed in those principles. Hence the varied interest of such journals as the "*Farmer*," which seeks to record the views of experienced cultivators, and hence also the bewilderment of the novice who would extract the truth from such a bundle of contradictions. Let me illustrate:

Deep culture and liberal manuring of good land will give a heavy crop of onions from seed wherever the climate is cool enough for this crop. In 25 years I have never known an exception to this statement; yet the largest onions I ever saw were raised by a man who ridiculed deep plowing and who watched his plowman lest he should do more than merely scratch the surface.

Again, some of our best strawberry-growers will not allow a hoe or cultivator near the plants, lest the roots, which are kept near the surface by a *mulch*, should be cut or bruised; others, equally successful, plow deep and cultivate fearlessly. Give an onion plant free scope and it will throw a thick mat of roots 18 inches or more in every direction under ground, defiant of drought; whilst a strawberry patch of shallow culture, deprived of its mulch, will suffer more from drought in any latitude than it will from frost. The riddle in this case is solved; both parties are right, and room is left for the exercise of individual taste.

As is well known, many excellent farmers haul out manure directly from the yard and apply it to their land; others, and I agree with them, take pains to compost it, or at least, by frequent turnings, bring it to a uniform consistency before using. If both methods are equally good, there must be some way of accounting for it.

Here is another puzzle that some one else may perhaps solve. A farmer's greatest need, we shall say, is a good pasture lot. He goes to work and sows a field of oats, sprinkling a little grass and clover seed before rolling. If the grass don't amount to anything, he sagely concludes that he has not had a good set, and does the work over again. We read in the Bible that while men slept the enemy sowed tares. What worse weed among the tender grass than a stalk of oats? But the oats were sown in broad daylight and by the farmer himself. Some succeeded in getting a pasture in this way, hence the riddle.

Mr. Massey's method of treating violets *without ventilation* during the winter months comes under this category, conflicting, as it does, with all past experience and the commonly-received principles of plant culture. My first thought on reading the article was, "well, the violet stands more bad treatment than I could have supposed it would;" but this dogmatic way of reasoning will not do. Mr. Massey finds his method to be a success, and it is certainly worth investigating. Seemingly improbable things in gardening have before now been confirmed and adopted. European gardeners, I doubt not, continue to make plant cutting in the old way by carefully cutting close under a joint, whilst gardeners in America have long ago abandoned the useless practice. So we live and learn. JOHN WATSON.

Baltimore Co., Md.

A Cheap Plant Support.

A correspondent of *Vick's Magazine* describes the cheap substitute for poles and trellis to support climbing plants and vines, which is here sketched. It takes for four hills, four laths or strips of the desired length and two shingle nails, and it not only saves the setting of poles, makes available lighter and more slender stuff, but it can be put up after the plants begin to grow. It has the advantage also of being adjustable to any distance between hills and needing only to be set in the ground to prevent slipping. It offers very little resistance to wind, and the vines hold it in place after they begin to climb.—The vines form a hollow pyramid, produce more pods or fruit, with better facilities for growth and maturity than when trained on single poles.

The mode of construction is to place two pieces, say of lath, together even, at the end intended for the base, and drive a nail through them against a clincher, two to six inches from the top. Repeat with as many pairs as you want. Let these spread from row to row, and let every two pairs from hill to hill meet in the cross at top. A string or bit of small wire may be needed to keep the tops in place. When the vines begin to overtop the pyramids, a crosspiece may connect pairs of pyramids in the direction of the row by simply resting in the forks of the cross, and the runners be trained to meet if extent of vine is desired.

Another way is to take three laths or poles and two nails, and make a tripod. This can be spread to two hills in one row and one in the other in alternation. This last is cheapest, and for low training is probably best. Cross-stretchers, by pairs in rows, of these trios, can also be used, and will render tying at the tops needless. For hops or grapes, or smaller garden or floral climbers, this device is available.

Determine to tell the truth at all hazards, and scorn to be other than sincere. Otherwise you are nobody; so doing you are a king.

The Vegetable Garden.

May.—The cultivation of the ground and the destruction of weeds and grass must be steadily persisted in. A steel rake with sharp and tolerably close teeth is the most efficient instrument for the latter purpose, if it is only used early enough. The weeds ought to be attacked as soon as or even before the seed-leaves peep above the surface, and a few good thrusts of the rake then will lessen the labor of much weeding afterwards.

Lima Beans may now be planted, taking care to give them rich soil. Poles that are too high are often used: six feet is height enough. Cucumbers, Melons and Squashes should be planted as soon as the ground and air are warm, and should be put in good rich hills, a light soil being preferable when convenient.

Succession crops of Corn ought to be planted every ten days. Cabbages and Cauliflowers of the early sorts ought to be unremittingly worked, and the latter delight, especially in droughty seasons, in occasional ample soakings of water. Seed for late crops may be sown. Egg plants require the richest and moistest soil, and frequent applications of liquid manure will be found beneficial.

Peppers and Tomatoes may be set out, and for late crops seeds should be sown at once out of doors. Succession crops of the earlier vegetables, as Lettuce, Peas, &c., may be sown, and the main crops of Beets, Carrots, Parsnips, &c., may still be put in.

Maryland Granges.

FREDERICK COUNTY GRANGE, No. 5.—This great and prosperous county of our State contains eleven subordinate granges, and the census of the membership of the order within her limits shows a total of a thousand Patrons. The regular quarterly meeting was held in the spacious hall of Eastern Star Grange, on the 9th ultimo, and it may be inferred that the attendance was large and that the best of feeling prevailed. It being the occasion of the annual election, considerable time was occupied in the election of the officers of the grange for the ensuing year, the choice falling upon the following: Col. John B. Thomas, Master; George W. Miller, Overseer; Horatio Zittle, Lecturer; Samuel Deer, Chaplain; George W. Smith, Treasurer; D. B. D. Sineltzer, Secretary; William Chiswell, Steward; Henry Ramsburg, Assistant; Raymond Reich, Gate-Keeper. Lady officers: Mrs. George W. Miller, Ceres; Miss Bettie Thomas, Pomona; Mrs. William Chiswell, Flora; and Mrs. J. C. Hagan, Stewardess. After the election a recess was had and upon reconvening the new officers were installed into their respective chairs by Wm. B. Sands, Secretary of the Baltimore County Grange, who also made some remarks pertinent to the occasion. W. State Agent Henry O. Devries then made a powerful speech, presenting in a lucid and most effective manner the advantages which the co-operation of the farmers through the grange had already secured, and the far greater capabilities open to them when combination among them becomes a living reality as well as a mere sentiment, drawing his illustrations of accomplishments possible from

the success already attending the institution and progress of the business agency established in the city of Baltimore as the instrumentality by which members of the order could unite in making possible wholesale operations, although very much less than a unanimous support is given by Patrons to the agency of their own creation. His address was received with many marks of approbation, and a resolution was adopted that it was the sense of the grange that the duty of Patrons required them as far as possible to give their earnest support to the business agency of the order in Maryland. A vote of thanks was also given the speakers.

The grangers of Frederick appear to be earnest and harmonious, alive to the benefits of combination for business purposes, and resolved likewise to get from their organization all the other advantages offered in any branch of its operation.

MANOR GRANGE, No. 163, Baltimore County. The officers named below were installed on the 25th ultimo, by Deputy C. Lyon Rogers, assisted by Sam'l Brady, overseer of Garrison Forest Grange:—J. M. Pearce, Master; Wm. T. Price, Overseer; Jno. R. Rutledge, Lecturer; J. H. Cockey, Steward; Wm. Hutchins, Asst. Steward; Oliver Price, Chaplain; Selda Emory, Treasurer; H. C. Hutchins, Secretary; Monroe Richardson, Gate-Keeper; Laura Pearce, Ceres; Eleanor G. Hutchins, Pomona; Lovie Nelson, Flora; A. Lee Burnette, Lady Assistant Steward.

HILLSBORO GRANGE, No. 19, Caroline Co., Md. This grange held a large meeting on the 18th ultimo, the attendance being drawn from the counties of Caroline, Talbot and Queen Anne's, which here come together, and in each of which portions of its membership reside. Several visiting members of the order were present and delivered addresses. Wm. B. Sands, Secretary of Baltimore County Grange, made some remarks giving his view of the opportunities for usefulness of the order, and the best methods of securing the advantages which it offers.

W. State Agent H. O. Devries made an effective speech, urging the importance of combination among the members of the grange, the necessity of making the meetings attractive and interesting, and the demand which exists for confidence, harmony, energy and capital in the achieving of the business aims of the association.

In the evening, pursuant to notice which had been given in the newspapers, a public meeting was held, the attendance being so large as to more than fill the hall. James S. Robinson, W. Lecturer of the Maryland State Grange, delivered an eloquent address, bristling with suggestions as to the necessities which gave rise to the order, the good it had already accomplished and the way which was open before it for still larger achievements. The speaker retained the attention of his audience most perfectly for nearly two hours, being greeted with much applause upon concluding his anecdotes and illustrations, keeping his hearers in the best of humor.

From the reports made by those present at this meeting, the general condition of the granges in the counties named is good. In some districts all the available material is gathered into the membership; in others a healthy growth is making.

Brighton Grange, No. 60, Montgomery County.

Messrs. Editors. American Farmer:

The grange met at the hall, Brighton, 15th of March, at 3 P. M. Among routine business, reports of committees were in order. W. Overseer R. H. Lansdale made a favorable report upon a very limited and incomplete trial of the Adamant plow. The special question for discussion was the taxation of mortgages, upon which W. L. Scofield spoke at length, holding that mortgages were property and should be taxed, and that the holder of the mortgage, as owner of the property, should pay the tax thereon. W. S. Jno. O. Clark did not see how making the mortgagee pay the tax on the mortgage would lighten the burden of the mortgagor. W. L. P. T. Stabler spoke in favor of having the amount of the mortgage deducted from the assessed value of the real estate. Bro. D. Lawrence thought that the mortgage was a contract between competent parties, and did not see unmitigated hardships in the payment of the tax by the mortgagor; that the terms of the mortgage were simply a matter of bargain without force between the contracting parties, and could see no advantage in the necessity for a change, except that making the mortgagee pay the tax would be more in accordance with the *letter* of the declaration of the Bill of Rights, that each person should be taxed according to his actual worth.

The grange finally passed resolutions stating that no property should be exempt from taxation, and that each person should bear his just proportions of the burdens of government; that taxing the morgagee could not affect the mortgagor or lighten his burden, but that it would be a nearer approach to the true principle of taxation.

The regular question for discussion was, "Will it pay to use commercial fertilizers on corn?" Repeated instances were given of the profitable employment of fertilizers for corn, and the general opinion appeared to be in the affirmative.

W. L. P. T. Stabler then gave an interesting account of his experience with the telephone, with blackboard illustrations of the mode of its operation.

The subject for discussion at the next meeting was announced, as "The time and manner of Harvesting the Clover Crop." The grange adjourned to meet April 12th at 3 o'clock P. M.

Value of Manure from Cows.

In the State of Massachusetts, the manure from a cow, well fed, should be worth at least $12 to $15 per year. In Flanders, the liquid manure from a cow is often sold for $10 per year. The liquid and solid are about equally valuable. Josiah Quincy estimated the manure from his cows as worth $1.50 per month. He kept them on the soiling system. The value of the droppings must, however, depend very much upon the quality of the food given. If the liquid and solid are both saved, it may be estimated as one-third the value of the milk, and thus must be a large item in estimating the profit of the cow.—*Live Stock Journal.*

Home Department.

Business Training for Women.

Messrs. Editors American Farmer:

I read with great interest the article in the February No. of the *Farmer* signed Ceres, under the title of Household Finances; and there is a train of thought suggested in one of the sentences that I would recommend to the careful consideration of every woman of the land, and particularly to every farmer's wife. It is this: "Whatever their resources, let each understand them." How many farmers' wives, think you, have sufficient knowledge of their husband's financial status, to enable them to be of any material aid toward the settlement of the estate, should death suddenly strike down the husband and father? We have frequent instances of the deplorable results caused by the wife's utter ignorance of the management of the farm and the most common forms of business. A farmer in moderate circumstances has his means invested in such a way that if his business has to be brought to a sudden settlement, much is sacrificed; and if it should fall into the hands of an unprincipled person for settlement, little is left. And what more pitiable object than the newly made widow with a family of helpless little ones, when, in addition to her bereavement, she finds that the beautiful home she had helped to rear, and which she had thought was indisputably her own, must be sacrificed, and the comfortable living that she had always had is gone, and she with no means of support, and no business qualifications whatever! Suppose at her marriage she had compelled herself (if she had no natural inclination for it) to learn the general principles of farming, and the common forms of business in general use among farmers, such as the nature of different notes, bank checks, bills, receipts, &c., she might, with her husband's assistance, have fitted herself so that with even moderate ability she could in this hour of dire necessity have managed the farm, and made a comfortable living for herself and little ones, and kept over their heads the home she would almost die to save. The complaint that there is so little for a woman to do is true, because by training and education she is fitted to do so little well, and my calling the attention of farmers' wives in particular to this matter is because I think that farming is a business that a woman might profitably engage in, particularly under the circumstances just mentioned, when otherwise it would seem as though there was no possible way for her to keep her family together without eating the bitter bread of charity, which Scripture teaches us is more blessed to give than to receive.

Kent Co., Md. FARMER'S WIFE.

The Smoking Question.

Messrs. Editors American Farmer:

The unmerited but very pleasing compliment from your excellent correspondent "T" quite disarms me for further antagonism of sentiment upon any question; and only for the seeming necessity to vindicate the cause of "equal rights and privileges," I would cheerfully rest the subject of "the noxious weed" where her pen has so gracefully placed it, "to be adjusted by placing the standard of human excellence upon a higher level."

My early prejudices were, like her's, strongly opposed to the use of tobacco in every way, and the infringement of any of the prescribed rules of etiquette were duly resented; yet nevertheless it came to pass that I married a *noble man* who both smoked and chewed it. Poor fellow! he has my pity even yet,—as has also many another good husband in like circumstances—for the noble efforts he made to conform to my wishes. First he would drop the one, and then resume it, and leave off the other, until (shall I confess it?) my compassion was moved beyond endurance, and we compromised by appropriating a room where he was at liberty to smoke to his heart's content, and also his friends. I had then to discover how large a proportion of his friends did smoke, although unquestionably *gentlemen*, and how naturally they did gravitate toward the "snuggery." What did I gain in place of the society of which I was thus deprived? certainly nothing to satisfy me as a substitute for it. I enjoy most intensely listening to gentlemen in unrestrained conversation, assuming that heart and mind as well as manners belong to the make-up of a gentleman; and I have also a preference for my husband's society on all proper occasions; so it would happen that upon one pretext or another, I would sometimes find myself sharing the beguiling influence of this "smoking room." Our friend "T" will doubtless admit that "smokers and chewers" of the "vile weed" are to be found among the great and good men of all countries; but her sense of propriety has, I fear, deprived her of the opportunity to learn how much better a man used to smoking will talk with a cigar at his command. Of course such an amusement would be out of place in public speaking, but it no doubt has its share in the preparation for such occasions.

In ordinary conversation, however, a smoker will, while dallying with his cigar or pipe, draw far more unreservedly upon his best thoughts and finest feelings than if forced to throw away his Havana and resort to *company* manners. Is it a case of moral degeneracy that in the course of time the gathering room, whichever it chanced to be, became the smoking room; excepting always such times as the presence of visitors who disliked the odor made it necessary that the smokers should be banished temporarily. Pardon the personality of this letter; I have only the interest of *real home comfort* in view. If it were my province to form society anew, I should not recognize any claim of tobacco; but to reform it upon any such a basis is a stupendous undertaking, which I shall leave to some one not in sympathy with the lovers of "the weed." In my advocacy for a plan for smoking conveniences, I suggested brackets—not "basket"—instead of mantel. I trust my adoption of such sentiments may not be regarded by "T," or any other of the readers of the *Farmer* whose opinions I value, as treasonable; probably with the gathered years and experience that have fallen to my lot, most of them will arrive at the conclusion that it is not well to commit one's self

too strongly antagonistic to anything that *really worthy* people value; and also that strong prejudices are apt to have a contracting influence, in the course of time, upon those who indulge in them. CERES.

Papers on Window Gardens—No. 3.

I have never found that I gained by early seed-sowing, as a few weeks of genial warmth steadily continued brought my tender seedlings on faster and more safely than if planted so early as to get chilled and put back by cold days. I waited until the weather was assured, and then got some old candle or cheese boxes from the nearest grocery, which I had cut in two, so that the depth of each was just half of what it was when whole. These shallow boxes were filled, or nearly so, with fine woods earth, entirely free from small stones, hard lumps of clay or earth. Then I selected my seeds carefully, having generally planned a good while before what I wished to raise next season,—leaving room, of course, for novelties. I have great faith in soaking seed, which I did in a cup or saucer in lukewarm water. The first cypress seed I ever planted for my garden were sown in a pot, taking just seven weeks to make their appearance. Disgusted with such long care and daily watering, I was about to say, like many another, those seeds could not have been good, (never thinking, for, oh! how unwilling is poor human nature to own its own course in fault,) when, as I was ready to throw the earth contemptuously from the pot, my eye saw some green plants looking as cypress vines do at first, very coarse in foliage and much like young tomatoes. Those were the slow-springing cypresses. When I knew better, I soaked the seeds in milk-warm and sometimes very hot water, until I saw them burst and the young leaves unroll before I planted them. Three or four mild days and sunny mornings brought them up out of the earth. Gourds, sweet peas, camellia balsams, ricinus, tagetes, or bronzed mangolds I never thought of sowing without this preparatory soaking, which I applied to all seeds that were not like portulaccas, lobelias or others of fine dust-like nature. And the soaking renders later planting successful. Nothing is more common than to hear complaints of "old seed." "I know it was not good, for it never came up," people will say with the utmost confidence,—never thinking that seeds put in shade and kept constantly wet will mould and spoil before they sprout; or if not watered and exposed to firing sun, scorch but not germinate. Not many amateurs, I think, have tried so many different kinds of seeds, and from different parties, in a small garden, and I candidly own that in all cases where seeds did not come up, I attribute the fault to my own bad management; but they generally flourished. There is much in the selection of suitable seeds for the window or flower-garden in which you wish to cultivate them. I have seen people in a store looking over catalogues, attracted by the description of certain brilliant novelties or hot-house plants, and buying the seed of the same without a thought. Such persons would have done well with a few seeds of ordinary kind, which required simple treatment. There is so much competition in the seed business of late years, when flower-growing has become the rage, that very few find it to their interest to send out inferior seeds. Men who are so widely known and honorable as James Vick, I consider reliable enough to be always willing to lay the blame of all failures on myself—that is, I am sure the seed they send out is good, however I may fail in growing it. Better tell a seedsman the size of your garden, whether sunny or shaded, and, if you are a beginner, let him select for you.

JANE B. MOORE BRISTOR.

Women as Gardeners.

If women would take upon themselves the supervision of the vegetable garden more generally than they do, farmers' tables would be better supplied with the products from them. They must of course be at liberty to use the forces at command, but if they would keep their own eyes upon the garden many a good and healthy dinner that is now lost through oversight would find its way to the tables. CERES.

Management.

Good management will enable us to overcome many obstacles, and to accomplish with comfort and satisfaction the various duties which we undertake, or which devolve upon us. Hence, just in proportion as we practice this art do we experience progress and success. Everywhere its fruits are apparent: in the care of children, the arrangements of the farm, the ordering of the household, and in every other vocation in life. And the greater the demands upon us, the greater the need for the development and exercise of this faculty. Housekeepers in an especial manner should cultivate their administrative and executive abilities.

When "spring work" has come, like a terrible host, and surrounded her, and, already weary and heavy laden with the effort to keep ahead with the imperative duties of every day, she begins one task, feeling sure, the while, that her time might be spent to better advantange at something else, she cannot tell what. And if she would not be overwhelmed by it—if she would not have her strength, her patience and her religion wrested from her at one fell sweep—she must take time to consider. A good general never issues orders or advances upon the enemy until he has reviewed his own troops, estimated his own strength, and carefully planned his campaign. And unless the housekeeper has already laid her plans and measured her resources, let her sit calmly down with pencil and note-book, and map out the work for the month, classifying and giving that which is most urgent and important the precedence.

Then the pressure of "spring sewing" and "house cleaning," the work of the garden, the care of poultry and the accumulating labor of the dairy can all be held in check by this rein of power, and she will find herself mistress of the field, with a small margin of leisure to be given

to reading and the cultivation of flowers. Although last mentioned, and put in as it were to fill up any moments not occupied with what are often considered the more important duties, *they* are of the *first* importance; and if from causes beyond her control *any* thing is neglected, it must not be one of these. We feel no fears but that the sewing, the baking, and perchance the cleaning, will be gone through with by every average housekeeper, and the *danger* that these may be accomplished at the expense of her mental and physical condition is the object of the present writing. Good management and true economy both demand that the housekeeper's time and strength should not be overtaxed,even if to avoid it should involve a little extra expense.

But if she would not have both mind and heart dwarfed, and herself become a mere machine subject to the growing wants of a family, he must have time to refresh herself with the invigorating thoughts and inspirations of other minds. And in like manner if she would not sacrifice her bodily health, she must give a portion of every day to healthful out-door exercise.

The pure air and the sunshine, the contact with fresh earth, and the contemplation of these incomparable works of the divine Father, create a healthy condition of body, and add refinement and strength to the spiritual nature; hence, we say, she must cultivate flowers. An eye to beauty leads us to the exercise of taste in many ways, and even with limited means we may *manage*, while caring for the health, to do a great deal toward beautifying the surroundings of our homes, and every effort in this direction will bring its own reward. By keeping an object steadily in view, we may *manage* to bring about very wonderful results. Our limited strength restricts us, and we cannot by our own exertions accomplish all we wish; but by a little self-denial in some direction, perhaps in the matter of a spring bonnet, or some other feature of dress, we may enable ourselves to employ a hand for several days, subject to our own bidding, and see what mountains of difficulties disappear, as if by magic! That old row of current bushes gets carefully dug, the asparagus and strawberry beds are freed from weeds, a few more seeds are planted in the garden, a compost heap is started for next year, a new flower bed, long coveted, and seemingly unattainable, is spaded deep and enriched with soil from the wood-pile—that *horrid drain* is righted up, and our present dread of *typhoid* removed; a little sodding is done here and there, the hen-house is whitewashed, and the hens with little chickens greased, besides innumerable other odds and ends, making the whole place wear such a different aspect, that the busy farmer who saw the need rejoices in being relieved of what he had not time to have a *taste* for, and a burden is taken from our shoulders as well.

And while this work is going on and the husband comes and *asks* if he may have "our man" for an hour or two to help in a tight place on the farm, what a satisfaction it is to tell him "yes" with an air of benignity and then *feel* that we are conferring a favor! And the husband thinks this is so convenient that he inquires "if we wouldn't like to *keep* that hand a few days longer." Of course we agree, and so the work of garden, and house, and farm, go on so beautifully and smoothly together that both husband and wife are charmed, and feel convinced that the satisfaction was worth the cost, and that to have had employed this "fifth wheel" of the concern was but another stroke of good management. T.

Domestic Recips.

Spring Soup.—A very delightful soup for this season of the year may be made in this way: Shred in thin strips one-quarter of a medium sized carrot, one-quarter of a white and the same of a yellow turnip, one small onion, two stalks of celery, and four or five small leaves of lettuce; add a few sprigs of parsley minced, cover with boiling water and simmer for five minutes. Drain off the water, turn on one quart of hot soup stock, and simmer slowly until the vegetables are tender, which will be in about half an hour. Add three tablespoonfuls of French or other canned peas, boil slowly five minutes longer and serve.

Calf's Head.—Your butcher will clean the head, cut off the ears and dig out the eyes. Boil the head until it falls to pieces; separate the meat from the bones; lay the brains in a dish and return the remainder to the water in which the head was boiled, and let it cook four hours; do not allow the water to get too low; spice it highly with pepper, salt, allspice, cloves and mace; when done, thicken with a little batter and lump of butter; remove from the fire, and when the steam evaporates, add one-half pint of wine; take up in a deep dish and garnish with sliced lemon and hard-boiled eggs.

Yorkshire Pudding.—One quart of milk, six eggs, a little salt, and as much flour as will make a stiff batter; pour into a dripping pan (meat pan,) putting a few pieces of dripping on it here and there; bake for one hour. In Yorkshire, where the meat turns on a spit in front of the fire, the pudding is placed underneath the beef, and receives the gravy as it drips.

Cream Dressing for Salad.—Beat together thoroughly three raw eggs and six tablespoonfuls of cream, three tablespoonfuls of melted butter, one teaspoonful of salt, one of mustard, one-half of black pepper and one teacup of vinegar. Boil, stirring it constantly, until it thickens like boiled custard. If it boils it will curdle. Let it cool, then mix with salad.

To Clean a Carpet.—First, have it thoroughly dusted and the floor well cleaned. Tack the carpet sufficiently to the floor to keep it firm. Take a half pail of water, hot as can be borne. Put in a tablespoonful of liquid ammonia. Use a stiff scrubbing brush and borax soap; scrub a small place. Have a second pail of water and ammonia; rinse off with this, and with a woolen cloth wipe as dry as possible. Renew the water often, until the whole carpet is cleansed; then open the doors and windows to dry it. This is splendid to remove grease and stains, and brightens the colors wonderfully.

The American Farmer.

PUBLISHED ON THE FIRST OF EVERY MONTH

By SAML. SANDS & SON,

At 128 *W. Baltimore Street, (sign of the Golden Plow,) Baltimore, Md.*

Wm. B. Sands, Proprietor.

Saml. Sands, Wm. B. Sands, } Editors and Publishers.

SUBSCRIPTION, $1.50 a year, in advance. To Clubs of five or more, $1.00 each. For $10, eleven copies will be sent.

ADVERTISING RATES.

	1 *Mo.*	3 *Mo.*	6 *Mo.*	1 *Year.*
One Square, 10 lines.....	$ 1.50	$ 4.00	$ 7.00	$ 12.00
Quarter Page.....	6.00	15.00	22.50	35.00
Half Page.....	12.00	25.00	40.00	70.00
One Page.....	20.00	45.00	75.00	120.00

Cover Pages subject to special contract.
Transient Advertisements payable in advance—all others quarterly.
Advertisements should reach us by the 27th of the month, to secure insertion in the succeeding issue.

MAY 1, 1878.

Bills.

Those of our readers who find their subscription bills in this issue will oblige us very much by prompt attention to the same. The amounts in individual cases are small, but the aggregate to us is very considerable.

Berkshire Portraits.

Mr. Fulford has decorated the walls of the *American Farmer* office with two handsome pictures of the Belle of Harford and Smythe-to-wit, two distinguished members of his herd of Berkshires, they being portraits drawn from life, by Mr. C. Palmer, one of the most skilful and conscientious artists in the line of animal portraiture now in this country. The drawings attract the attention of all visitors who see in the life-like delineations models of porcine perfection.

The Growing Crops.

From all quarters of the country we have the most cheering accounts of the prospect for the wheat crop. With but few exceptions it is considered as one of the most promising ever produced; and as an unusual breadth of land was sown last fall, in anticipation of good prices from the results of the war in Europe, if no calamity shall overtake it before the grain is saved, it will probably be the largest yield ever made in the United States. It is now a critical time with the crop, and the weather for a single day may change the prospect to a very great extent, and we should not be surprised at all at this result. Some accounts are reported of damage by the Hessian fly, mildew and other casualties, but they are comparatively limited, and we have reason to hope for a very fruitful harvest. The latest news at this writing (30th April) of the condition of things in Europe renders it very uncertain whether or not a war will be the result of the difficulties between England and Russia. Should these great powers determine to try the "tug of war," there is no telling what other nations will be drawn into the contest, and the end no human eye can foresee.

The hay crop bids fair to be a heavy one, and the season for all the growing crops, as well as those now being put in, is fully two weeks earlier than usual. The fruit crops, if below an average, will probably be large enough for profitable handling.

Our Advertisers.

☞Mr. Joshua Thomas, it will be seen, continues to present the claims of the Buckeye Mower and Reaper, and to offer to farmers a varied assortment of well-tried implements and machines, including the Watt and Ball plows. Another department of his business is the furnishing of mills and mill supplies; and he makes a specialty also of cucumber pumps, which have come into such universal use in every quarter.

The Kanawha Pump Works offer their improved pumps, and those desiring to purchase are recommended to send for circulars and price-lists.

Messrs. George Page & Co. present the merits of their Portable Engines, which have stood the test of time and long service; also various other useful machines, including the Vibrator Separator.

Mr. A. B. Farquhar, of York, Pa., offers several patterns of Steam Engines and his Separator, besides a general assortment of Farm Implements.

S. H. Slifer & Co. are the general agents for the Marsh Reaper and Mower, and a variety of other well-known machines, as well as the Weed Sewing Machine, an established favorite.

A. G. Mott has a full line of repairs for Mowers and Reapers, and makes a specialty of repairing them and other machines.

G. Westinghouse & Co., Schenectady, N. Y., offer Threshing Machines which have an extensive reputation.

☞We have received from Mr. Miller, of Illinois, to whom allusion was made last month as having undertaken the task of contending for the equality of the Herefords with the Short-horn cattle as beef-producers, a communication, accompanied by lengthy letters addressed by him to other journals to prove his position. We cannot afford to give space to the discussion of a question which was considered settled some twenty-five or thirty years ago, so far as this country was concerned. If the influence and wealth of such men as Henry Clay, of Kentucky, and Mr. Corning, of New York, importers of Herefords, whose efforts are referred to by Mr. M., aided by the vigorous pen of Mr. Southam, who fought with all the courage of a gallant knight, with a fair field, (which we know he had with the agricultural press of that day,) in support of the cause which Mr. Miller has now espoused, showed a failure of the pretensions of this breed of cattle, it is not likely at this late day, after the immense success to which the Short-horns have obtained, to disturb that decision which was so emphatically settled in the contest.

In Maryland we have had before our eyes the attempt for years to introduce this breed to public favor, and no where, perhaps, has the failure been more signally shown.

☞The advertisement of a dairy farmer wanted in Nansemond Co., Va., deserves attention from any one who would like to go into business in that quarter. The farm is well located as to springs, soil and other essentials of a good dairy farm, and it is conveniently located as regards opportunities for the sale of the products at paying rates.

Scale Insect.—Gen'l Jno. S. Berry called recently at the *American Farmer* office to say that he had found a strong solution of concentrated lye an effectual cure for the scale insect which infests fruit trees.

Sweet Potato Plants.—Inquirers for these will find large stocks offered by Gilbert H. Patterson, and W. F. Massey & Co., among our advertisements.

Several interesting communications are left over from want of space in this issue. They will appear in our next.

We had the pleasure of a call, April 30th, from Genl. J. N. Bethune, of Fauquier, Va., who reports all the growing crops in his section as giving abundant promise of heavy yields.

To Preserve Wooden Labels.—Thoroughly soak the pieces of wood in a strong solution of copperas (sulphate of iron,) then lay them, after they are dry, in lime-water. This causes the formation of sulphate of lime, a very insoluble salt (gypsum) in the wood. The rapid destruction of labels by the weather is thus prevented. Mats, twine, and other substances used in tying up or covering trees and plants, when treated in the same manner, are similarly preserved.

CONTENTS OF MAY No.

How to Cultivate and Manage a Farm in Eastern Virginia, by Wm. Holman.....155
On the Cultivation of Tobacco, by J. M. Baker 158
How can we improve our Poor Farms, by B.159
Useful Knowledge and Industry, by C.....160
The Tobacco Horn-Worm, by J. M. Baker..161
The Enterprise Club, by N. E. D.....161
A Visit to Judge Fullerton's Farm 162
Haymarket (Va.) Agricultural Club, by W. L. Heuser.....162
Sweet Potatoes, by G. W. Briggs.....163
Our French Letter, by F. C.....165
The Benefits of Farmers' Meetings, by H. C. Hallowell.....166
The Profits on Sheep, by Owen Norris.....167
Merino Sheep as Improvers of the Soil, by Jno. S. Goe.....167
Sheep as Fertilizing Agents, by Columbia...168
How to Make Manure.....168
Carrots and Mangold Wurtzels.....169
Kentucky and its Farming, by Capt. L. H. McGinnis.....172
Work for the Month—The Corn Crop, Potatoes, Root Crops, Millet and Hungarian, Fodder Corn, Tobacco, Pumpkins.....174
Points in a Saddle Horse.....174
Reforming a Balky Horse.....174
Depraved Appetite in Brood Sows 174
Chicken Cholera--Preventives and Remedies.175
Maryland Horticultural Society, April Exhibition.....176
District of Columbia Horticultural Society..176
Horticulture and Agriculture in Georgia....177
Fruit Prospects, by J. W. Kerr.....177
Home-Raised Trees, by J. Fitz.....178
Labels for Fruit Trees.....178
Greenhouse for May, by W. D. Brackenridge.178
Plan for Laying Out a Small Place.....179
Evergreen Shrubs, by N. F. F.....179
A Peach Assorter.....180
The Wild Flowers of Virginia, by J. W.....180
The Weeping Beach 181
Ferns and Butterflies, by R.....181
Riddles in Soil and Plant Culture.....181
A Cheap Plant Support.....182
The Vegetable Garden for May.....182
Maryland Granges.....182
Brighton Grange, No. 60.....183
Value of Manure from Cows.....183
Business Training for Women, by Farmer's Wife.....184
The Smoking Question, by Ceres.....184
Papers on Window Gardening, No. 3, by Mrs. Bristor.....185
Women as Gardeners, by Ceres.....185
Management, by T.....185
Domestic Recipes.....186